ABS: Using Data to Maximize Profit from Genetic Progress

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Who is ABS?

ABS Global is the world leading provider of bovine genetics, reproduction services, artificial insemination technologies, and udder care products. The company, founded in 1941, markets in more than 70 countries around the globe and currently supports more than 50,000 customers with more than 17 million inseminations and embryo transfers annually.

ABS is focused on the continuous development of better genetics to help our customers produce better quality beef more efficiently and sustainably. With a long history of innovation, ABS is at the forefront of delivering new genetic solutions to make our customers more profitable.

Brief history of data collection efforts

ABS has been collecting data for genetic improvement of beef cattle for more than 50 years and was involved in the early years of BIF and development of the BIF guidelines. A large-scale multi-herd progeny test program was initiated by ABS in the early 1960s, followed by the first published EPDs from that program, adhering to BIF standards, in 1973. The collection of Real World Data continued to be an integral part of the beef program, leading ABS in 1996 to partner with the Angus Sire Alliance formed by Circle A Ranch, which became an exclusive ABS test program in 2007. The Angus Sire Alliance has tested thousands of commercial progeny from more than 100 bulls, for traits directly related to whole-herd customer profitability. All the data collected through various testing programs has contributed to the improvement of the major beef breeds in the US.

How ABS operates today

ABS continues to collect data in the US through the Angus Sire Alliance and breed association carcass merit programs, and is growing testing capacity through partnerships with progressive herds throughout the country. We have focused on collecting phenotypes for traits that are relevant to our customers and have made efforts to collect data for traits that are economically relevant but have historically not been routinely recorded, such as individual feed intake. ABS has been one of the largest individual contributors of carcass and feed intake data to the American Angus Association database. In addition, we are collecting phenotypes and genotypes to feed internal evaluations.

Outside of the US, ABS has made significant efforts to work with producer-partners to collect data that enables a greater understanding of the impact of our genetics in different environments and how this impacts customer profitability. Specifically, in the UK/Europe and in Latin America, we have developed commercially relevant data pipelines to measure the full animal life cycle, including feed intake and several novel traits. Much of the data we collect in these systems is for commercial crossbred animals and so all data, including genomic information, are fed into our internal database system that we use to create customer solutions.

The data challenge

The largest data challenge that ABS faces is the same challenge the global industry is faced with – collecting data and making genetic improvement for economically relevant traits in a targeted and sustained manner. Genetic improvement that leads to a differentiated product drives profit maximization in a system, and the engine that drives this improvement is robust and relevant data. The value of a sire or dam to create more profitable progeny can only be effectively determined by collecting data in the system or environment in which they will be used. In addition, as we make progress for traits that are today routinely recorded, we open up the opportunity to target other factors that impact animal performance which until now have seemed to be too difficult or complex to measure.

One solution to this challenge is to reduce the emphasis on developing somewhat compromised solutions that will work across the whole industry and instead focus on improving individual systems where targeted genetic improvement can have a more rapid impact, and where there is a clear incentive to collect data. ABS is working with customer systems and customer data, inside and outside the US, to develop programs targeted to customer systems, which in most cases include traits and animals not routinely recorded elsewhere. The outcome of these programs is identification of improved genetics that have demonstrated added value to the customer. When genetic decisions become more “local,” the economic relevance of certain traits is more obvious leading to more robust datasets and ultimately improved profitability.