Fact sheet

Implementing eID Technologies: Benefits of Electronic Identification (eID) for cattle

Electronic Identification (eID) devices are small ear tags that have a unique number identifier, which is printed on the tag and able to be read by radio frequency devices remotely. Recording of livestock movements on the National Livestock Identification System (NLIS) database is mandatory to ensure traceability in the event of a disease outbreak.

Although introduced to ensure market access compliance, there are many benefits for cattle producers to improve herd productivity and profitability through recording individual performance of animals. Individual performance recording of vital production traits enables high performing and low performing animals to be identified and managed accordingly.

What to measure and manage

Any piece of information about an animal (birth date, sex, parentage, colour, weight, pregnancy status) can be recorded alongside its individual eID. However, it is important to identify the goals and objectives of your enterprise, and the traits that are of most importance to measure to achieve your outcomes.

Individual animal performance recording enables a quick and accurate stocktake of the herd to be undertaken without the need to reference handwritten note books and diaries. It also allows treatment records, sale records and carcass performance data to be accessed and give an analysis of the overall performance of the herd.

Using eID to improve cattle herd performance

Recording management interventions

Routine health procedures recorded on an individual basis ensures that animals are not sold while within a withholding period. Recording of veterinary procedures and treatments enables drug treatments (particularly antibiotics) to be monitored and prevents entry into certain markets. Monitoring persistent veterinary issues at an individual level is also a useful tool for making culling decisions in the herd.

Recording live weight change

Routine weighing helps with meeting target growth weights (e.g. for mating or feedlot entry) or market specifications (for slaughter). Regular individual weight records allow feeding regimes to be adjusted, minimising wastage of time or feed, leading to an efficient herd. There are a number of options available for auto-drafting of cattle at weighing, allowing them to be easily split into management groups.

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Remote weighing of live weight

This technology is only possible because of eID and allows individual weights to be recorded remotely whilst cattle are in the paddock. Walk over weighing (WOW) technology uses a water point to lure cattle through a weigh platform, where their eID tags are scanned and a weight recorded. WOW technology may also be paired with an auto drafting system. Another method of remote weighing is through the use of a short weigh platform that captures the partial weight (front two feet) of the animal whilst it consumes an attractant. With either method, remote weighing enables a proportion of the herd to be weighed daily and performance tracked. This enables producers to monitor feeding regimes and make proactive management decisions. It also allows for weight gains and market end points to be forecast well ahead of time.

Recording of cow body condition score

Monitoring a cow's body condition throughout the production cycle over her lifetime can be used to a) allow drafting of animals based on condition and inform supplementary feeding decisions, and b) be used with pregnancy outcome data to inform culling decisions based on mature weight, productivity and resilience to the environment (i.e. select cows that conceive and calve easily whilst maintaining adequate condition compared to others in the herd).

Recording pregnancy status and calving outcomes

Cow pregnancy outcome can be recorded against their individual eID, along with pregnancy success (i.e. live calf, dead calf, assisted/non-assisted birth). If required, calves can be linked to their mothers through parentage verification testing and additional information such as birth date, calf weight and calving ease can be recorded. If calving complications such as a prolapse, caesarean or mothering issues have occurred these can be recorded and used for future culling decisions.

Management of genetic trends

Recording an individual's genetic background, as either sire line, dam line or both, can enable analysis of herd performance (growth, reproduction, carcass) and the effects of certain bloodlines or individual sires. Advances in genetic technologies now enable genomic testing of commercial animals for production traits, which will enable more accurate selection of replacement females and bulls. This technology requires individual data to be recorded, which can be made easier through the use of eID.

Management of feedlot cattle

The use of eID tags in commercial scale feedlots is crucial to their efficiency. eID enables feedlot operators to easily record induction information, days on feed, movements, weight gain and drug administrations. Even small scale or opportunistic intensive feeding operations can benefit from tracking individual animal performance.

Advantages of eID over traditional methods of recording information

eID is best implemented alongside a visual management tag, so that if either is lost by the animal the remaining tag can be cross referenced, replaced and the recording database updated. This is important to ensure that animals and their associated data are not lost. This is particularly important for cattle destined for markets under an assurance program, such as the European Union Cattle Accreditation Scheme, where lifetime management practices must be recorded.

There are many suppliers of eID readers (fixed panels, handheld wands) and indicators that interface to collect the eID, weight and management records of the animal. Using eID technology enables cattle to be scanned as they move through a race, rather than waiting for the animal to stand still to visually read the tag. Manual recording of performance information is time consuming, labour intensive, and has greater potential for errors. Collating and analysing this data to make management decisions requires even more time. Inevitably, a lot of data is collected but little is used to inform management decisions. The increase in speed and accuracy using eID to collect information results in reduced stress to the animal, and less time in the yards.

Managing the data

Once the data is collected and recorded onto an indicator, any further collation and analysis requires some form of computer software. In some instances where simple data is being collected, Microsoft Excel may be adequate to manage data and extract the required information.

There are numerous commercial software offerings that have been specifically developed to manage cattle data. Such software platforms provide a reliable way of managing birth, growth, health, fertility, carcass and genetic data. These platforms allow animals to be ranked on different traits and provide insight into overall herd performance whilst ensuring the integrity of the core database. The choice of exact hardware and software to manage eID data depends on the requirements of the individual producer and their infrastructure. There are specialised livestock consultants available to provide independent advice on the best platforms and equipment to perform the tasks required.

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