THE NEED FOR **IMPLEMENTING** A **TRACEABILITY SYSTEM** IN SOUTH AFRICA

Health status critically important for Livestock Producers and the Stud Industry

DR MICHAEL BRADFIELD

A Foot and Mouth Disease outbreak (FMD) costs the weaner-calf producer an average of R1 500 per animal (at least R7 per kilogram) and the industry between 5 to 6 billion rands annually. Our local consumers react negatively to an FMD outbreak, and an FMD outbreak puts our exports at risk. South Africa exported 40 000 tons of meat in the year 2020, up from 34 000 tons in 2019. These equate to 4% of the total meat production. China is important because 30% of our products go to this country alone.

In the USA, approximately 13% of their products are imported, and 10% of the high-value cuts are exported. This model ensures food security and equates to an estimated increase of R2 800 per slaughtered animal. The USA model is a good model for South Africa to follow because the country imports low-value cuts, also called ground beef, and exports the high value cuts to obtain much needed foreign currency and adds significant value to the livestock sector.

Having said the above, FMD is such an enormous risk for South Africa that it is critical for our industry not to neglect

the domestic market by simply focusing on exports. Whatever the situation, the weaner price is directly linked to the animal health status of the country, and hence the need for a traceability system should not be debated. What has been up for discussion has been the factors responsible for implementing a national traceability system.

Traceability systems from other African countries

Many African countries are in the process of implementing a traceability system. We can thus also learn from their successes and failures.

One of the most successful traceability systems in Africa, and even internationally, is the Namibian FANMEAT system that has been up and running for at least two decades. It started small as a voluntary system for animal products destined for export. It also started as a simple ear tag, and the recording was paper based. A barcoded ear tag was then implemented. Namibia then moved to a National Radio Frequency Device (RFID). The tag has an electronic coil that is triggered by an electronic reader to provide an international identification number (incidentally, many South African producers now use the tags as management tags, and most feedlots have implemented either RFID or High-Frequency tags). The tags are sold for between R30 to R40. In Namibia, all slaughtered animals are also leveed to pay for the traceability system.

A lot of lessons can also be learnt from the Botswana system and how not to do things. Botswana opted for a reticular bolus that is approximately the same size as an A3 battery. Whilst the intention was that the bolus could be recycled and matched with a new Identification number, the reality was that the whole system was impractical. Once the bolus is in the stomach, it is impossible to remove and very difficult to recycle. There is also no visible identification of the animal. Because the bolus is tamperproof, it does significantly reduce stock theft. Unconfirmed reports showed that the bolus system was applied to only 3 million animals at a cost of approximately 35 million USA dollars. Botswana has now moved to an RFID system, like that used in Namibia. Despite the challenges, the export market is critical to the revenue for the agricultural sector in both Namibia and Botswana, and hence the need to have a traceability system in place.

Other African countries that have or are in the process of implementing national identification systems include Swaziland, and the eight IGAD countries, including Ethiopia, Kenya, Uganda, Sudan, South Sudan, Somalia, and Eritrea.

Benefits for implementing a traceability system

Whilst exports have traditionally been the main driver for implementing a traceability system, the numerous other benefits from implementing a traceability system have meant that even countries with little or no export opportunities are now implementing traceability systems. This is particularly true in most European countries where traceability is now mandatory. Animal health has already been discussed because the movement of an animal is traced (hence the saying, “from farm to fork”), and identifying infected animals that have been identified to be in close contact with other animals, is a lot easier.

All individual animal movements are recorded on a central database. The users of our red meat products at the end of the value chain can quickly and effectively identify where the animal came from and identify all

animals that the problem animal was in contact with over its lifetime. An outbreak of Anthrax a few years ago in Southern Australia, for example, allowed an extremely fast response by the veterinary department, and all animals that encountered the diseased animal was quickly isolated and vaccinated within 24 hours.

Namibia and Botswana can negotiate with the veterinary departments from high-value markets because of their free (zoned) FMD status and the fact that any threat is supported by a traceability system. They can back up their claims that any outbreak of any disease can easily be isolated. Hand in hand with disease outbreaks and food safety concerns are the control and use of veterinary drugs and pesticides that get recorded on the national database, animal movement control, inspection, and certification.

Animal Identification

Another benefit is simply that animals are properly identified. Whilst branding, ear notching, and normal tags can and will continue to play their part in animal identification, having every animal identified is important and provides an animal with "ownership", like providing a car with a number plate. If an animal is not identified, by law it rightfully raises questions as to why the animal has no identification device fitted. Not only does it make management easier, but the identification devices are also not that easy to remove because they have a steel nail that goes through the ear. The ear tags are also manufactured in such a way that the only way that the tag can be removed is to cut them out of the ear. If cut out of the ear, it leaves a neat hole, and a knife cut is easily visible.

In South Sudan, where large numbers of cattle are stolen, tamperproof visual tags have shown to reduce cattle theft by up to 90%. Having one national device also allows the government to negotiate very effectively on price because the orders then run into millions. This reduces the prices for tags to everybody's benefit.

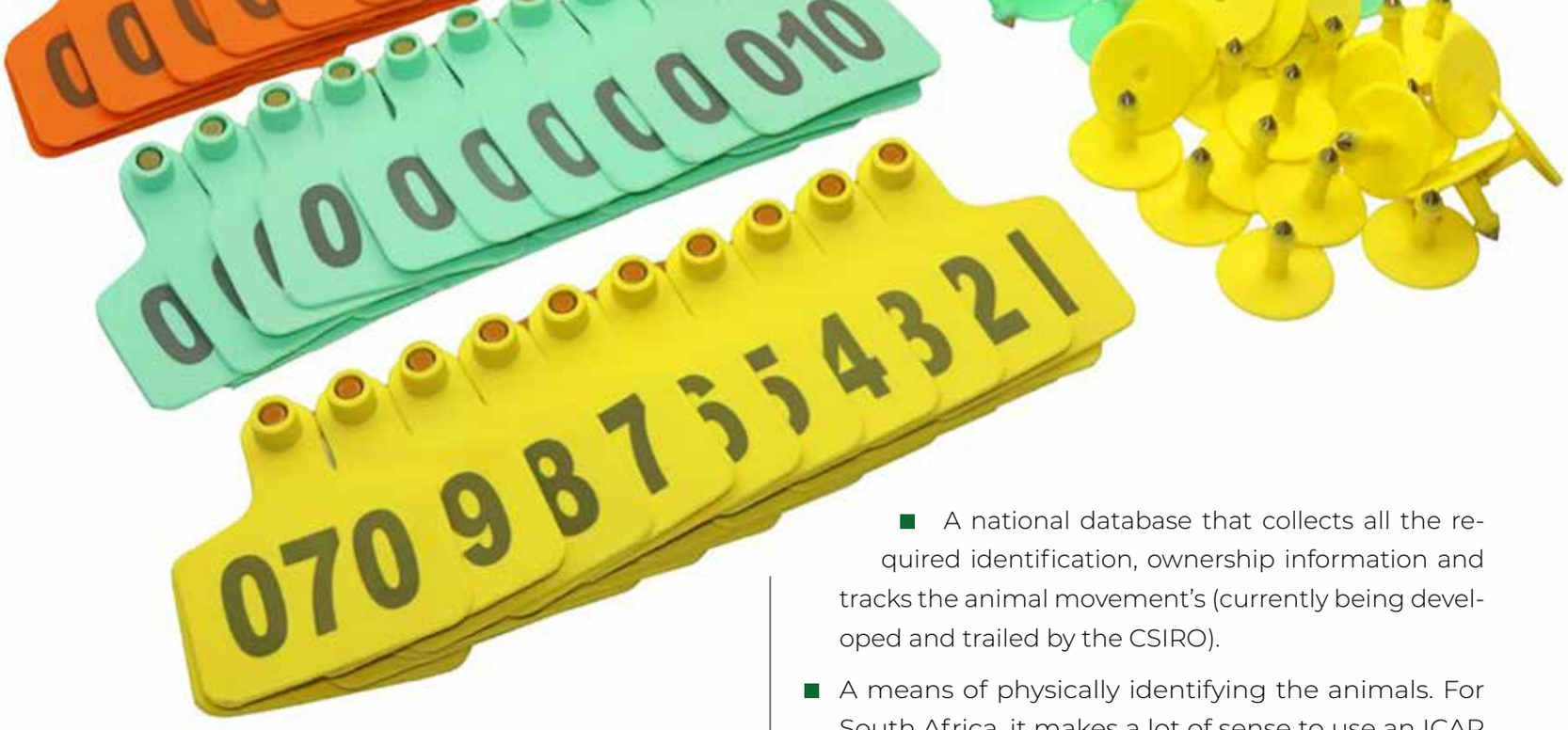
Traceability also assists with the management

Finally, herd and flock husbandry management are also improved. In countries that have been exposed to a traceability system, many, if not most producers would continue to run an animal identification and movement system, even if it were not legislated, simply because of the management benefits.

Implementing a traceability system

All actors in the Meat Value Chain need to agree to implement a traceability system. There currently is a coordinated attempt in South Africa to put a system in place, that is recognised by all value chain actors, and the international community, as being a credible South African system. The body that manages the implementation of a Livestock and Identification System (LITS) is called LITS-SA. LITS-SA is represented by both government and industry, with industry representatives being from the RPO, NERPO, SA Feedlot, and the Abattoir Association. The Ministry of Health is the competent authority (as prescribed by the OIE).

The major cost in running a LITS is the running of the database and the logistics of recording the individual



animal movements. The setup of a LITS system is usually government-funded, and the running of the database and infrastructure required is then usually paid for by the industry. A pilot project is currently being run in the FMD affected zones.

Species chosen to start a LITS is usually cattle

The species most often chosen to implement a traceability system is beef cattle. This is simply because the cost of the device, relative to the carcass, is the lowest. Once implemented and running smoothly, the industry will then move to other species, such as sheep and goats. Most countries also start LITS by targeting one sector of the value chain. This is usually in an industry where the value chain benefits most. Examples include exports or areas that are experiencing cattle theft with large groups of animals.

Steps required to develop a traceability system

- An "authority" that manages the system. This has agreed to be LITS-SA in South Africa.
- A national database that collects all the required identification, ownership information and tracks the animal movement's (currently being developed and trailed by the CSIRO).
- A means of physically identifying the animals. For South Africa, it makes a lot of sense to use an ICAR approved RFID tag because most feedlots use radio tags.
- The necessary movement and disease control documentation must be developed.
- A legal framework is required.
- The implementation must be supported by a program that educates industry participants.
- Proper monitoring, enforcement, evaluation, and audit procedures must be put in place.

Finally, a query system must be demonstrated i.e., if an animal identification is entered into the database, the database must be able to provide a report of the history and whereabouts of the animal, and the individuals that the animal encountered, throughout its lifetime.

Implementing and running a traceability system required a high level of organization, and all actors in the value chain must cooperate. There is no doubt that it is time to implement a traceability system in South Africa - if we are to remain competitive as a livestock industry.

The article above has been adapted from an article written in Landbouweekblad on the 8th of July 2016. More details of the LITS system proposed for South Africa can be found on the DALRRD website. **www.dalrrd.gov.za** ■