by Ashley Grimsell

GLOBAL DINNER PLATES AND THE LIVESTOCK REVOLUTION

The star of the show always comes first, and I am yet to hear someone utter the phrase, "Tonight's dinner will be *braaibroodjies*, with a side of steak." The colloquial tune ringing around a South African fire typically goes something like this, "Tonight, we've got some steak, chops, *lekker wors* ... and *braaibroodjies*." Back in 1999, a term which treasures potential for the livestock industry surfaced, eagerly waiting to be unearthed. In all honesty, the mining of this treasure has begun; however, few thoroughly grasp the potential value of its returns. The term being referred to here, is the so-called Livestock Revolution.

THE LIVESTOCK REVOLUTION has been defined as an intensification in the global demand for food from animal origin as a result of population growth, urbanisation, and increases in household income in developing countries.

The demand for animal protein accordingly substitutes a portion of the starch-based food-share on the plates of these global families. Capitalising on this revolution will necessitate that livestock producers adhere to the future consumers' echoes for sustainable red meat production. There are a few aspects to these echoes of sustainability, which will be briefly discussed here.

Environmental impact of livestock production

We are frequently reminded that ruminant livestock significantly contribute to greenhouse gas emissions. However, some critical detail is omitted from this statement. Ruminants emit methane through their dung and by belching (similar to burping). The critical note – which is often left out – is that methane is short-lived in the atmosphere (it exists for approximately 12 years), after which it forms part of the natural carbon cycle. Carbon dioxide on the other hand – emitted through the burning of fossil fuels by industrial processes – is far more harmful to the environment than methane due to its extended lifetime in the atmosphere (approximately 100 years). This carbon dioxide is 'new' to the atmosphere; hence, it does not form part of the natural carbon cycle and consequently contributes a greater deal to global warming. So now that we have set the record straight, how do we minimise the environmental impact of livestock production?

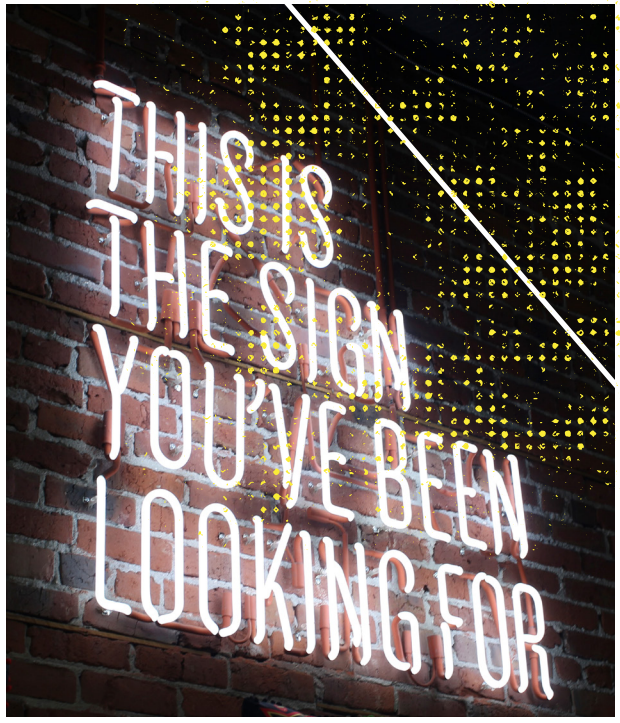
Several researchers have focused their efforts on identifying feedstuffs and feeding strategies that reduce methane emissions by ruminants – with success. Precision nutrition is not solely classified into the environmental category, but also has a stake in the economic category. From an environmental perspective, animals fed the correct nutrients at specific production phases will reduce the quantity of nutrients excreted into the environment.

Implementing effective water management strategies will ensure its availability for future generations of animals and producers. It can be as simple as fixing water leakages as soon as they appear, conserving soil moisture through alternative cropping practices, and being mindful of when water should be used, and if used, how it should be recycled.

Healthy animals are happy animals, and we do not necessarily need antibiotics to achieve this on-farm. In order to reduce the levels of drug-resistant microbes, producers can start implementing strategies where antibiotics are applied judiciously. Some examples of good starting points include reducing the time in-feed antibiotics are fed, only treating animals that show signs of illness, and having a treatment programme in place.

Social acceptability of livestock production

Animal welfare – we are no longer able to escape the scrutiny of curious consumer eyes, and that is good. We need to ensure responsible production, where the benefits of production stem both ways – in favour of the producer and the animal. Happier animals result in elevated levels of production and, ultimately, satisfied customers. This additionally links back to precision nutrition, with animals receiving the correct diets and nutritional supplements that enable them to grow, produce, and reproduce with minimal hurdles.



Modern consumers have a desire to know where their food comes from and, in essence, want to know how it has been produced. That is where traceability comes in. Traceability should not be regarded as a judgemental eye, but rather something a producer can take pride in. If a producer is able to produce the top chop on the block, they deserve the recognition for it and should have a share in the customer's satisfaction of the product. How can we improve something if we do not know where it comes from? Implementing traceability will also enable the livestock value chain to trace the source of outbreaks (be it on-farm or in foods, such as the 2017/2018 listeriosis crisis and recent foot-and-mouth disease outbreaks) and ensure that they are managed accordingly, minimising losses and the ripple effects that might spread to unaffected areas of production.

Food safety adds another layer of responsibility. Producers need to ensure that medications and certain feed additives are withdrawn at the correct time, thus ensuring that food is safe for human consumption. The livestock production chain will effectively have a significant role to play, as safe and clean handling and processing premises and practices ensure the provision of high-quality, nutritious, and safe end-products to the paying consumer.

Economics of livestock production

How do we ensure that we remain the food producers of the future? Feed is going to become more expensive, profit margins are under pressure, and the competition is real. However, pour some passion, reliable advice, a willing soul into the cup and you will get there.

Precision nutrition will start playing a vital role in the success of a future producer. The more efficiently we are able to feed animals during their unique phases of production, the less nutrients – and money – will be lost within our farming systems. Diets should be formulated to increase feed efficiency, where less feed should be consumed, resulting in more product (meat) being produced. Feed efficiency can also be linked to the animals retained within our production systems. An animal that possesses the ability to adapt to a specific environment will be more productive. If an animal struggles with the disease challenges or weather changes that are natural to its environment, it will inevitably not be as effective in producing as an animal that is better adapted. One way of ensuring that animals are adequately adapted is by purchasing breeding animals from the same geographic area/climatic conditions and implementing cross-breeding practices as part of the breeding strategy. Some more ways of bettering on-farm efficiencies include improving conception rates, immunity, and health; striving to attain higher weaning percentages; and reducing breeding intervals, morbidity, and mortalities.

In addition, manure management forms part of the environmental impact of livestock production and can ultimately be economically rewarding. The recycling of manure into the farming system, be it for crop or pasture application, will enable the producer to save costs in terms of inputs such as fertiliser, which is currently experiencing elevated price levels together with uncertainty in terms of pricing in the near future.

The dinner plate of the future

The dinner plates of the world are changing, and they are changing fast. It is difficult to implement a vast number of improvements all at once; however, the earlier you start, the better you will be equipped to participate in the future food production game. ®