Abstract

Recently the world has been challenged by epidemics and most recently a human pandemic. This has disrupted the global economy and caused heartache for millions of people. Through this period of uncertainty, new ways to track people were developed using a carried smart phone that enabled check-ins, registrations, and proximity alerts. The threats today and of the future are the same for animals and an improved system(s) is required now.

Animals roam remotely and gather intensely; most animals though are where traditional communications are absent. They can't carry a device or recharge a smart phone. Yet globally, challenges of disease biosecurity and consumer traceability demand is intensifying. Therefore, the identification and traceability technology of the future needs to be dual operated in unlimited range and intense environments, reliable, automated, auditable, ubiquitous, interoperable, secure high integrity data, recording real time location and activity plus adaptable between intensive and extensive operations. The technology of now and the future should go further and record their impact on the ecology, environment, feed efficiency for genetic traits and health/welfare to determine if changes are required through management practices or other means to meet ESG expectations of the future from the supply chain to the consumer. The technology of now and the future should also incorporate one touch recording of transfers, providing information for the entire life of the animal.

However, there has been billions spent around the world on existing RFID systems. Therefore, if we disrupt and cause radical change too fast we will leave those investments obsolete or unable to serve out their lifetime. Instead, a transformative future technology needs to be introduced that is interoperable with existing infrastructure while rewarding those transferring to a new automated remote way of gathering information that is beyond an RFID number and includes real time behaviour/activity, location and proximity history of the animals during their lifetime. Transformative commercial technologies exist, and the approval processes are already dictated by international standards like ISO and international communication protocol requirements. Approval should only consider information collected and the way in which the technology interacts with the animal for ethical and welfare consideration. Long national approval processes should be removed and instead a centralised approval from a single body (ICAR) to assess so that these platforms may transparently operate to democratise the information about the food consumed globally.

Innovation is fast outpacing regulation. An international framework of global requirements to enable future rapid adoption of improved technologies for identification, traceability and activity are required now or risk substandard renegade schemes and technologies that operate outside of required biosecurity needs.