Ensuring biosecurity in livestock: safeguarding animal health

Livestock farming plays a pivotal role in meeting the global demand for food, contributing to economic growth, and ensuring food security. However, the emergence and spread of infectious diseases pose significant threats to livestock health, production, and human well-being.

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To mitigate these risks, biosecurity measures are paramount. Biosecurity encompasses a comprehensive set of practices and protocols designed to prevent, control, and manage the introduction and spread of diseases within livestock populations.

Biosecurity measures

Biosecurity measures act as a proactive defence against the introduction and transmission of diseases in livestock populations. By implementing strict biosecurity protocols, farmers can minimise the risk of disease entry into their herds.

These protocols include restricting access to farms and enforcing hygiene practices for farm workers, visitors, and vehicles which help prevent disease transmission. Further measures include quarantine and testing. Isolating and testing new animals before introducing them to an existing herd enables the detection of potential disease carriers and prevents the introduction of diseases.

Finally, vaccinating livestock against specific diseases strengthens their immune systems and reduces the likelihood of infection, minimising disease transmission.

Livestock diseases encompass a wide range of conditions, including viral, bacterial, and parasitic infections. Foot-and-mouth disease, avian influenza, African swine fever, and brucellosis are just a few examples that have wreaked havoc in recent years.

These diseases not only cause immense suffering to animals but also result in economic losses through reduced productivity, trade restrictions, and increased treatment costs. DEFRA, for example, has recently imposed strict controls on pork imports due to this risk.

In a statement they explain: "We have strict biosecurity controls on the highest risk imports of animals, animal products, plants and plant products from the EU – and we also have powers to check and seize non-compliant products.

"EU countries affected by African swine fever cannot export pork or pork products from affected regions unless under very specific circumstances. Last year we introduced new controls restricting the movement of pork and pork products into Great Britain to help safeguard Britain's pigs from the threat of African swine fever."

Biosecurity compliance

The risk of these diseases is real and threats such as African swine flu show how without enforcing these measures UK farmers can be exposed to huge risks.

Financial penalties and criminal charges for non-compliance with biosecurity measures are also a factor. For example, in Australia, a livestock agent was sentenced after pleading guilty to 109 biosecurity charges and faced a large fine. Getting biosecurity right for those working in the farming industry is also vital to avoiding fines and penalties for non-compliance.

The UK government recognises the critical importance of livestock biosecurity and has established legislation to enforce compliance. The Animal Health Act 1981 and the Animal Welfare Act 2006 provide the legal framework for maintaining livestock biosecurity standards. Breaking biosecurity regulations can lead to significant financial penalties.

Effective biosecurity in livestock production systems also involves hygiene and sanitation. Effective disinfection protocols in livestock production encompass various areas, such as barns, stalls, equipment, feeding and watering systems, and transport vehicles.

Disinfectants are carefully selected based on their spectrum of activity, efficacy, environmental impact, and compatibility with livestock species.

Commonly used disinfectants include quaternary ammonium compounds, chlorine-based agents, hydrogen peroxide, iodine-based compounds, and phenolic compounds. Each disinfectant has specific applications and recommended concentrations to ensure efficient and safe use.

Cleaning and disinfection

Regular cleaning and disinfection of animal housing, equipment, and feed storage areas reduce the risk of disease transmission through contaminated surfaces. The use of agricultural disinfectants for preventing the outbreak of diseases and infections on farms, veterinary centres, food distribution and more is vital.

There are two key aspects to this: applying a systematic, methodical, and rigorous cleaning programme; and selecting the right agricultural disinfectant for the task. This specificity is important. While many commercially available disinfectants are multipurpose, one single type may not meet all decontamination requirements.

There are many disinfectants currently available, but many fail to reach the efficacy standards required within the agricultural sector. A new invention, called SANI-99 for AGRI, is a world-first multi-purpose, non-toxic, highly versatile, agricultural disinfectant that can be used in a variety of applications including livestock disinfection. Significantly, it holds a Log7 rating, meaning that it kills 99.99995% of pathogens on contact. By comparison, that is mathematically up to 2,000 times more effective than household bleaches (per million pathogens) which claim 99.99% efficacy, and even that assumes the bleach is in its concentrate form, not diluted.

Indeed, it is this combination of enhanced potency and animal (and human) safety that sets SANI-99 for AGRI apart from anything else in the market. Moreover, to ensure all round suppression of pathogenic spread, it can be integrated successfully within all other bio-security preventative processes, nor does it leave behind harmful residues and is safe for contact with livestock and humans; it is an all-round cost and time saving solution that simplifies biosecurity processes.

Conclusion

By prioritising biosecurity, livestock farmers can protect the health and well-being of their animals, reduce economic losses, and contribute to the resilience of the global food system. Governments, industry stakeholders, and individual farmers must collaborate to promote and enforce robust biosecurity practices, ensuring the sustainability and prosperity of the livestock industry in the face of evolving disease threats. Taking heed of new innovations in sanitation and hygiene can also help boost biosecurity and prevent disease. ■