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Strengthening the resiliency of the food chain through livestock vaccinationÂ Â

06 June 2024 | News

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As the most widely consumed red meat in Asia, there is rising demand for pork across the region. Developing countries are projected to experience a 13% growth in pork meat demand from 2020 to 2030. Notably, South Korea, Vietnam, and China have the highest pork consumption per capita in the region.

In some countries, the consumption of pork has outweighed its production, leading to the need for imported meat. This, in addition to recent news of disease outbreaks in pigs, has resulted in a call to diversify import sources across Asia and implement appropriate measures to prevent the spread of such outbreaks and reduce economic losses.

Vaccines could be the solution to improving the resiliency of pork supply in light of these new threats, whilst also ensuring animal welfare through disease prevention.

How essential is to protect the livestock farming businesses with vaccination?

Vaccinations are vital to the swine farming business as they are among the top five most effective alternatives to antibiotics[1]

In fact,**vaccines were found to be the most effective strategy for disease prevention** compared to other interventions such as biosecurity, diet, stocking density and disease management.[2]

Pigs are routinely vaccinated against four major, highly prevalent pathogens associated with swine diseases that cause substantial financial losses in pig farms and economic losses to societies worldwide:

- Porcine circovirus 2 (PCV2),
- porcine reproductive and respiratory syndrome virus (PRRSV),
- *Mycoplasma hyopneumoniae* (*M. hyopneumoniae*), and
- *Lawsonia intracellularis*[3],***[4]***,***[5]***,[6]

These vaccines provide economic sustainability to farms as they help to control disease outbreaks and improve the performance of farms in the long run. In a study modelling the economic benefits of vaccination against PRRS, it was found that the rise in production performance in swine nurseries and reproductive performance of sows largely compensated for the cost of vaccination. The return on investment to customers were several folds, not only for PRRSV, but also for PCV2.

Importantly, a meta-analysis based on international standards (GFLI, IPCC) (10) revealed that FLEXcomboÂ® vaccinated pigs also yield a carbon saving effect of 17.1 kg COÂ²eq/100 kg slaughter weight (equivalent to a 5% saving) compared to non-vaccinated pigs. [7]

Vaccination programs can be complex and time-consuming. Facilitating application with a single administration offers many benefits, such as saving time for the farmer or veterinarian and minimizing the stress on the animal and farm staff.

Vaccine administration has been made easier with innovations such as Boehringer Ingelheimâ??s TwistPakÂ®, a mixing platform which simplifies the vaccination process by freshly combining vaccines against PCV2 virus and *M. hyopneumoniae* directly in the bottle, making it easier for livestock farmers and offering greater flexibility, fewer injections, less stress for piglets, and more efficiency on farms.[8]

What would be the future role of vaccines in overcoming infectious diseasesÂ?

In Asia, infectious diseases such as African Swine Fever (ASF) remain a huge threat to the sustainability of global pork supply chains. While biosecurity methods for early detection and prevention of ASF have shown positive outcomes, many farms still rely on mass-culling when threatened by deadly diseases.

Recently, the approval of the commercial ASF vaccines in Vietnam has kickstarted a reconsideration in the approaches to combat the infection. This is expected to hasten the development of vaccines for other deadly infectious diseases, eventually leading to vaccination being the go-to sustainable approach in overcoming deadly diseases affecting pigs all around the world.

Can you define Sustainable approach to pork farming?

Good animal health status and high welfare standards are indispensable towards safeguarding food safety, improving farm productivity and ensuring sustainable farming practices. A 360Â° approach to sustainable farming includes:

- Vaccines as a core preventive strategy
- Biosecurity measures to safeguard livestock
- Digital innovations such as precision livestock farming to improve early detection and treatment of affected pigs

As a partner to customers, Boehringer Ingelheim believes in taking a holistic approach that goes beyond conventional farming practices, from the prevention to the prediction of animal health risks associated with farming activities. Technology and innovation will remain foundations for vaccine innovations, disease prevention, elimination strategies, and towards achieving the next revolution in Swine Health Management.

The award-winning precision livestock farming system, SoundTalksÂ® allows pork producers to avoid disease-related losses by helping farmers to identify early signs of respiratory disease in their swine herds across the whole production system. Producers can then take the necessary preventive actions or administer the required treatment in a much faster and timely manner.

Furthermore, technologies such as Boehringer Ingelheimâ??s COMBAT (Comprehensive Online Management and Biosecurity Assessment Tool) application allow customers to stay up to date with scientific research, providing them with a customized breakdown of their farm's biosecurity risks and giving recommendations on how to reduce these risks.

Vaccines and digital innovation will continue to pave the way for better welfare of pigs, food supply and the livelihoods of farmers in the region. This will further support the industry to create profitable growth, greater animal welfare, consumer transparency, and lasting sustainability.

What would be the ideal strategy to drive better outcomes with a sustainable strategy?

With growing incomes and populations that significantly increase the demand for pork as a food source, a holistic approach is critical to enhancing efficiencies in pork meat production. By implementing preventative measures and digital innovations, this can ensure a more sustainable and resilient food supply.

As a leader in animal healthcare who is committed to upholding the Sustainable Development Goals of the United Nations, Boehringer Ingelheim is taking the first step through products and services for the livestock industry to support long-term human, animal, and environmental health.

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