



THE ROLE OF ANIMAL HEALTH IN SUPPORTING LIVESTOCK SUSTAINABILITY AND HELPING MEET CLIMATE GOALS

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Close to ten years ago, every country in the world came together to [develop a shared](#) ‘blueprint to achieve a better and more sustainable future for all.’ The outcome was 17 Sustainable Development Goals (SDGs) that would guide global efforts to build a society that can deliver continued progress for generations to come. Since then, the world has dramatically accelerated efforts to strengthen sustainability across industries. For the livestock sector, this offered an opportunity to showcase [existing efforts](#) and invest in new strategies for the future.

Livestock health was always recognized by producers as an important sustainability pathway, improving efficiency and reducing productivity losses. For instance, the global beef sector has [made it a pillar](#) of their 2030 sustainability goals. However, animal health has been continually overlooked by policymakers when developing national strategies. [The result is](#) 20% of livestock production is still lost to disease each year, costing producers \$300 billion and emitting higher emissions than needed. However, this is beginning to change.

In 2022, the United Nations Food and Agriculture Organisation (FAO) urged nations to integrate animal health into their national climate commitments, [calling it](#) “vital for sustainable livestock production.” Last year, the UN further emphasized animal health when it released its [global roadmap](#) for ‘Achieving SDG 2 without breaching the 1.5 °C threshold.’

The Roadmap recognized the importance of livestock to 1.7 billion farmers worldwide, and offered proven pathways for addressing its climate footprint includ-

ing better genetics, feed, and animal health. In fact, an accompanying [UN report](#) calculated the effects of different steps to address livestock emission, finding that:

- Productivity increases would reduce emissions 20%
- Feed improvements by 12%
- Better animal health by 10%
- Improved genetics by 8%
- Methane reducing feed additives by 5%

This 50%+ combined reduction is in comparison to actions like diet changes in people, which the report found only reduced emissions by 4%.

This growing recognition of the value of animal health and related technologies has the potential to dramatically improve livestock sustainability and decrease its carbon footprint. This will require increased use of veterinary vaccines, strong biosecurity protocols, improved feed and use of additives, better breeding practices and adoption of new digital technologies. Each area offers opportunities to cut emissions while also increasing productivity.

VACCINES

Disease prevention is the cornerstone of livestock health and sustainable production. When animals are healthy, they produce more with less feed, water and other resources, which means farmers can meet consumer needs with fewer animals at a lower climate footprint. Researchers have found that when disease strikes, it [can increase emissions](#) in beef cattle up to 113% and by 24% in dairy. Vaccination avoids this dramatic impact by stopping disease before it strikes.

However, [too many barriers still exist](#) to vaccine uptake, ranging from lack of investment to cold chain infrastructure to slow regulatory approvals. Policy-makers must come together in the coming years to work with vaccines manufacturers to develop new strategies for getting vaccines to more farmers and veterinarians in a faster, more effective manner.

BIOSECURITY

While vaccines are an essential tool, they are not available for all diseases and not every illness can be avoided. Biosecurity offers a complementary method for preventing disease through practices that keep disease off the farm altogether. These can be simple steps like boot sanitization stations, to more complex systems like indoor animal rearing and quarantines. This spectrum of biosecurity tools means there are opportunities for better prevention on farms of every size, sophistication, and system. A recent study found that prevention of highly pathogenic avian influenza (HPAI), which many countries achieve through biosecurity, reduces poultry emissions [by approximately 11%](#).

IMPROVED FEED AND NUTRITION

The past decade has seen substantial improvements in understanding of the gut microbiome of animals and how it supports disease prevention. This has helped animal health companies develop a range of nutritional supplements that improve gut health, leading to lower levels of diseases like necrotic enteritis that sap productivity and increase the environmental footprint of production. Furthermore, an emerging area of feed additives like 3-NOP can reduce the amount of methane produced in the gut of a cattle, which U.S. Department of Agriculture funded research found led to a [25% reduction](#) in cattle methane emissions.

BETTER BREEDING

Just like in people, an animal's genetics can dictate whether it will be vulnerable to various health ailments. Breeding is therefore a critical component of any health strategy to help ensure that the animals that arrive on the farm have an innate resistance to certain diseases and can produce more efficiently in

that region. Studies in Europe have shown that better genetics could reduce livestock [emissions in the European Union](#) by 8%, while in the Netherlands a focus on genetics could [slash methane emissions by 24%](#).

DIAGNOSTICS AND DIGITAL

Increasingly sophisticated farms are shifting from not just preventing disease but *predicting* it and taking action before it has an opportunity to strike. For instance, widespread use of diagnostics across farms allows researchers to track the movement of disease across borders and support farms in taking preventative measures before it arrives on their doorstep. On the farm itself, new digital tools like smart sensors alongside 24/7 video and sound monitoring mean A.I.-driven tools can detect the very first cough or elevated temperature of a sick animal before a person can. Farms can then isolate sick animals and prevent the spread of disease that could wipe out a herd.

ANIMAL HEALTH AND THE FUTURE AHEAD

Animal health tools to strengthen, prevent disease, improve sustainability and reduce emissions in livestock are available. Global institutions are increasingly recognizing them as a key pathway in addressing both hunger and climate simultaneously. The next step is for governments to take the necessary local actions to ensure farmers, veterinarians and other animal keepers can access these technologies and have the necessary support to use them. This means:

- Ensuring proper access to veterinary expertise to help with deployment;
- Building regulatory systems that allow safe, effective animal health products to quickly reach those in-need;
- Providing the appropriate support to help farms adopt animal health products that provide significant societal benefits;
- Working directly with animal health companies to set long-term strategies that can help new vaccines and other products reach the market, particularly in outbreak scenarios.

These actions will ensure that when world leaders measure global progress against the SDGs in 2030, animal health will have been one of the drivers of livestock's contributions.