



TACKLING ANTIBIOTIC USAGE ON POULTRY FARMS

Expert tips from **John Vincent**, director of business development at Cobb offers advice on combining effective management and best practice when using antibiotics on broiler farms

Antibiotic use in broiler production is a topic that affects the whole industry, but what can actually be done at a practical level? A surprising amount. Smart and considered decisions can, even when minor, result in greater performance and profitability, all while reducing antibiotic usage.

Antibiotics have played a role in poultry production for nearly as long as they have existed, offering prevention and protection against harmful infections during crucial stages of a bird's development. With continual growth and production absolutely paramount, use of antibiotics quickly established itself as a regular practice.

However, things have changed. Antibiotic resistance is a complex and controversial issue – even mainstream news outlets will report on the topic. Inappropriate use of antimicrobial products in human medicine and intensive livestock production has been implicated in the development of resistance to some of these products.

Antibiotic resistance has become a significant issue in public health, and, other than the current global issue, it is one of the largest facing human healthcare today. In animal production, all sectors are under increasing pressure to reduce reliance on antimicrobials. Whether it comes from government legislation or voluntary moves from the livestock sector, actions have been taken to do just that.

WHAT STEPS CAN BE TAKEN IN POULTRY PRODUCTION, SPECIFICALLY AT THE FARM LEVEL?

Saying “we must do this” doesn't provide



A good clean water supply is essential for a chicken's development

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tangible options for many and is little help when facing elevated mortality rates. The industry has already shown notable progress in reducing their usage while maintaining high levels of productivity.

The British Poultry Council reported a 44% drop in antibiotic use between 2012 and 2015, and a further 2019 report showed antibiotic usage still well within the set limits. There is still more that can – and should – be

done. By implementing careful management and best practice, it is possible to reduce reliance on antibiotics without compromising the birds' health or overall business success.

THE ISSUE

“Antibiotic use is a major topic of discussion at almost every industry body meeting,” said John Vincent, who is the director of business development at Cobb Europe.

“Everybody is aware that we have to



Measuring the true internal temperature of a chick can help indicate whether it is under any thermal stress

reduce our use of antimicrobials when managing issues with the birds. However, it's also true that our industry is under extraordinary pressure. A side effect of introducing antibiotics is that a process of selection inevitably starts, with susceptible bacteria being eliminated while the resistant ultimately survive – resulting in strains that evolve resistance, causing increased challenges when managing disease further down the line.

“Antibiotics do not discriminate between favourable and unfavourable bacteria and an unwanted side effect of treating an intestinal disorder is that the gut flora can be altered in manner that is ultimately negative to the animal in other ways.”

The problem is that the overall causes of infection are usually not limited to one factor, but several. The challenge is to identify the aspects of production can be changed that do not contribute to the unwanted outcome. Broadly, we can group these under one catchall phrase: stress.

A potential strategic approach for poultry businesses is to tackle stress in advance of these infections rather than treat the outcomes.

LIMITING STRESS

When we talk about stress, there are a number of key areas that can affect birds. Significant direct stressors include growing an animal outside of its thermoneutral zone (such as in temperatures that are too high or low or lack of key nutrients including water). These, however, are relatively straightforward

to monitor and generally part of standard practice. Issues also arise due to indirect or minor stressors, the cumulative effect of which can be substantial. A few of these minor stressors, perhaps coupled with non-lethal disease, can combine to push the animal ‘over the edge’ and cause serious health issues.

Mr Vincent offers a simple analogy: if we took a race car around the track pushing it constantly at maximum speed, sooner or later the strain will cause issues, if not outright breakdown. However, by driving at 80% or 90% of top speed, the car will endure for much longer, without a huge reduction in performance – in fact, the car will overall travel further.

Many minor stressors can influence poultry:

- Light levels
- Oxygen or carbon dioxide levels
- Feed space
- Onset of sudden noise
- Changes in nutrient density

Adverse conditions during incubation and hatching or failure to manage biosecurity can also contribute to stress – resulting in a detrimental effect before the animal has even been hatched.

“There is no such thing as a bacteria-free sterile farming environment,” according to Mr Vincent.

“All we can do is manage the aspects we can control, and ultimately promote healthy conditions while limiting the factors that can result in unwanted infection.” 🐔

NEW WAYS FORWARD

Scientific developments are always occurring, and one area in particular shows exciting promise for improvements in animal health: the animal microbiome.

The microbiome is the genetic material of all microbes – bacteria, viruses, fungi – that live in a particular environmental niche, for example, on and inside an animal's body. By managing these microorganism communities (most notably, the intestinal flora), Cobb Europe is starting to see some breakthroughs in novel ways to prevent and treat disease.

Business Development Director John Vincent said: “The subject of the microbiome is certainly being explored. A lot of research shows that understanding the macrobiotic environment in which animals live and grow is a significant factor in managing health and welfare. It's about making sure that the animal has a healthy community of the right microbes rather than constantly trying to ensure they're released into a sterile environment.”

Introducing birds into a completely clean environment free of any bacteria is impossible. We can, however, promote the development of healthy bacterial populations.

While it is not a one-size-fits-all solution, this method is especially effective when used in the bird's early stages of life. Though not currently widespread, this could signal a step-change for effective antibiotic reduction going forward.

“Antibiotics should never be your first resort,” added Mr Vincent.

“We do need them, but only when other methods have proven ineffective. Controlling stressors and optimising management can help avoid many issues before they materialise. If you can prevent the problem occurring, then you might not need to address it – ultimately, this helps reduce the needs for use of antibiotics.”