CFC CASE STUDY SERIES

Using a Combination of Technology and Observations to Raise Without Antimicrobials

John Gross

JOHN GROSS AND HIS SONS RUN A BROILER OPERATION IN ALBERTA WHERE THEY RAISE 33,150 BROILERS PER CYCLE IN 7 CYCLES PER YEAR. HE AND HIS COLONY ALSO OPERATE A MULTI-SPECIES OPERATION WITH CHICKENS, PIGS, BEEF CATTLE, AND SHEEP. THEY ALSO WORK 8,000 ACRES OF LAND. ALTHOUGH JOHN IS FAIRLY NEW TO WORKING WITH POULTRY, HE HAS DEVELOPED GOOD STRATEGIES TO WORK WITHOUT THE USE OF ANTIBIOTICS IN HIS RAISED WITHOUT ANTIBIOTICS OPERATION. SO WHAT CAN CONVENTIONAL PRODUCERS LOOKING TO REDUCE THEIR USE OF ANTIBIOTICS LEARN FROM JOHN'S EXPERIENCE?

1 Setting up the barn is key

John considers the most important factor to his success is getting the barn ready prior to the introduction of a new flock. To do this, he emphasizes the need to ensure everything is cleaned out by blowing it down and getting all the cobwebs out. John does not disinfect the barn, however, as he wants to have some potentially beneficial bacteria present for the next flock to build immunity and tolerance from. He also focuses on cleaning and disinfecting the water lines and flushing the feed lines as part of his routine protocol before placement.

Prior to the birds arriving, he heats up the barn before putting any bedding down as this ensures that the heat warms the concrete. Over the next few days, John prepares the feed and waterers, ensuring they are functioning well and then proceeds to put straw down. He also puts paper down and puts feed on top for chicks to get them on feed as soon as possible.

2 Managing coccidiosis with vaccination

John has his birds sprayed with a coccidiosis vaccine and has done this since he started working with poultry. He uses half-housed brooding in order to maximize the immunity that is generated. He has had to tweak this protocol, however, to better manage necrotic

enteritis. When John first started, he transitioned the birds from half-house to full-house at 9 days after placement, but he consistently saw a spike in necrotic enteritis. Working with his advisors, they decided to push the transition to 11 days and have had better results. With the 11 day transition, John mentioned that he risks keeping the chicks in an environment with higher humidity and wet litter. But, with his advisors, veterinarian and nutritionist, he will continue work to alter this area to improve the humidity and litter wetness.

3 Leverage your advisors

It is clear when speaking to John that he has a close working relationship with his advisory team. At the start of each flock, John typically has a walk through the barn with his veterinarian to ensure it is well set up and the chicks are starting well right at placement. He also routinely calls his veterinarian (typically about twice per flock) to discuss any changes in bird health or management. John also has a great relationship with his nutritionist, whom he speaks with twice per week to learn as much as he can from him. He mentioned that when we started, he didn't have much experience working with chickens, and with the support of his veterinarian and nutritionist, he is learning, making improvements, and finding success.

One of the measures that John and his advisors keep a close eye on is mortality. Specifically, his number one key performance indicator is mortality in the first 7-10 days. During this timeframe, John mentioned that when he has over 1.5% mortality or when over 40 birds die per day (0.1% per day), he starts to sharpen his focus to find what the issue may be. He starts with doing post-mortems to determine the cause of death and working with his advisory team. He emphasizes in these situations, you have to listen to your veterinarian as they are key to providing objective advice and troubleshooting.

4 Managing ventilation and preventing drafts

Another key management practice that John mentioned was the importance of ventilation. He found that with necrotic enteritis, it is critical to prevent drafts in the chicks from 1 to 15 days after placement. This was especially critical in the winter time. To combat drafts, he shuts off the circulating fans in his barn as he found this helps to prevent drafts. On day 12 after placement, he starts moving the air around more. John also highlighted the importance of barn design. He mentioned that he found that the higher the ceiling in the barn, the better the air quality.

5 Consistency is key with tweaks for continuous improvement

John and his nutritionist feel strongly that consistency is another key to success. Their view is that having a system and working that same way every single cycle will lead to improved outcomes. Preparing the barn in the same way prior to placement, continuing to walk through the barn systematically, and continual monitoring of ventilation and lighting will give chicks ample opportunity for excellent growth, health, and performance. John notes that while it takes time to set up the right process, consistency is always better in the long run, and with minor adjustments over several flocks, you can continuously improve and identify what is optimal. Maintaining that feedback loop with his advisors helps him to learn from those changes over time.

One of the things that John has changed over time is the employment of continual monitoring with technology, in combination with walking through the barn and observing what is going on firsthand. He found that technology can help, but you really need to observe what is happening. To get a true picture of flock health, he spends a significant amount of time

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each day in the barn, in combination with technology monitoring things like humidity and temperature.

Overall, John has found success in his broiler operation by learning what works and what doesn't, by making tweaks to improve and evaluate their impact on each cycle. While he relies on technology for real-time monitoring, he believes it is critical to use his skills of observation to assess the health and growth of his birds. John also found working with his advisors leads to changes and keeps him learning about how he can improve.