

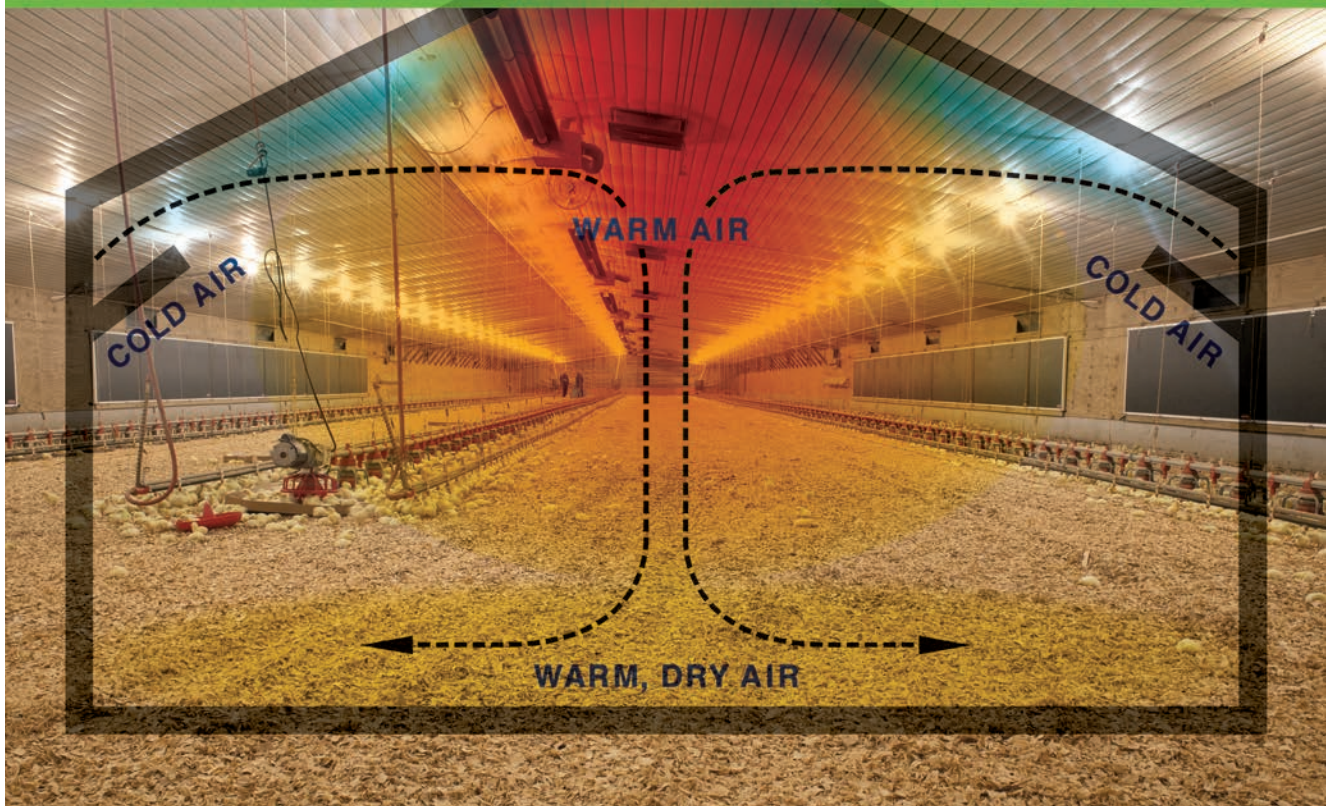
The Case for Air Quality Surveys: Reduce Respiratory Disease Risk, Improve Performance

Air quality surveys are a valuable tool that allows integrators to look at trends of air quality in broiler houses, serving as an effective indicator to gauge if litter amendments are being utilized effectively. They also provide a wealth of actionable data that can be used to reduce the impact of ammonia on respiratory health.

Ideally performed when birds are 3 days old or younger, the surveys identify the levels

of ammonia, relative humidity and floor temperature in the brood and off chambers, and deep in the litter, across a number of houses and farms. Air quality surveys are an effective way to assess:

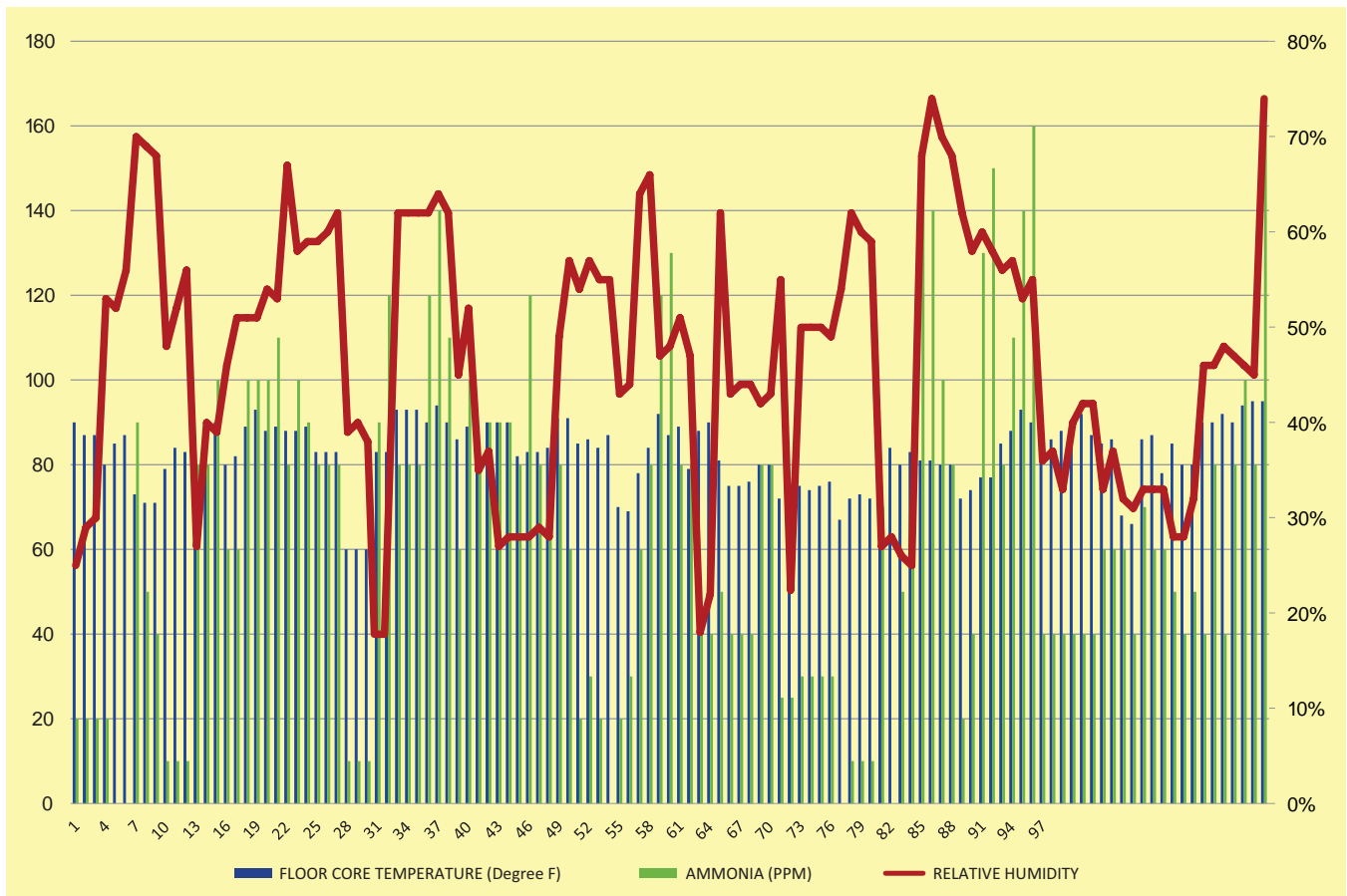
- the level of ammonia exposure within a complex
- litter curing and house preparation procedures
- the proper rate and application of a litter amendment



Air Quality Surveys for Complexes Using Litter Treatments

Complexes on a litter treatment program can use air quality surveys to determine if their application rate is sufficient for their current ammonia challenge. If ammonia levels in a warm, treated brood chamber are the same as those in a cold, unheated off chamber, and deep litter readings are quite high, the litter amendment application rate is insufficient. Conversely, if the levels in the treated brood chamber are lower than the off-chamber, then the rate and timing of application is sufficient for the existing challenges.

A survey of 206 houses conducted in 2016 demonstrated there is work to be done on reducing the ammonia at the air/litter interface where birds will be placed. In addition, it is critical to recognize that the target core litter temperature necessary for proper ammonia purge and bird placement are not being met within the required placement period. The study did show that relative humidity levels were properly maintained across most houses.



Air Quality Surveys for Complexes Not Using Litter Treatments

Air quality surveys also provide value during times a litter amendment is not in use. For example, many people believe that high ventilation needs during hot summer months mitigate the need for ammonia control. However, an air quality survey of 251 houses in 13 complexes conducted in July showed a substantial amount of ammonia during the first few days of brooding, which has the

power to negatively influence bird performance. Ammonia levels of 25-50 PPM can result in reduced body weight and feed efficiency, leaving as much as 0.50 pound of weight lost through the entire flock not to mention the loss of paw quality and the susceptibility of increase in airsacculitis.

Using Air Quality Surveys to Prevent Respiratory Disease

Many factors lead to respiratory disease, however, ammonia exposure at move down is the most common cause of late airsacculitis in a flock. High levels of ammonia in the off-chamber at turn out can also cause increased susceptibility to bronchitis or Newcastle viruses, or harsher than desired vaccine reactions if birds receive a field boost. Performing an off-chamber survey prior to turn out allows

a complex to identify this issue and apply a litter treatment to the off-chamber to prevent any negative consequences due to ammonia exposure. If the basic management practices or proper temperature and ammonia control are adhered to, many respiratory disease problems and the subsequent loss in revenue can be avoided.

