

# Connecting Water Quality, Bird Health and Profitability in the Emerging Era of Antibiotic-Free

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There's an old saying about disease management that still rings true today: You can either increase immunity or decrease exposure—and preferably do both. The poultry veterinary community has done an excellent job of improving immunity with proven vaccination programs coupled with the judicious but ever decreasing use of antibiotics—by observing symptoms *and* implementing both responsive and predictive management practices.

Decreased exposure to pathogens, however, is a much broader effort and requires paying attention to a number of critical production aspects such as biosecurity, finished feed pathogen status, hatchery and transportation sanitation, insect and rodent vector control, barn air (particulate and ammonia) quality, litter management, and water quality.

In 2017, over 50 percent of all water samples collected and analyzed with MWI Animal Health's Technical Services group were positive for *E. coli*, total coliforms—or both. Those numbers do not include other non-tested bacterial, yeast, fungal or viral pathogens present in water lines and/or well water samples. *So poultry drinking water is clearly a possible source of continuous pathogen infusion into the gut.* It also can contribute non-pathogenic microbial loads that can interfere with gut performance and immune system development from the time of vaccination at the hatchery to the first drink of water on the farm.

There is a second aspect to water quality that absolutely rings true and seems to be an illusive profitability and

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health barrier for poultry veterinarians and nutritionists: birds will drink twice as much water as they consume feed (by weight) *and* water is the single most variable input parameter within any given live production complex, regional or national. *That's right. Water is simultaneously the single largest variable (chemically, biologically and physically different between farms) and the single largest input into a growing, breeding or laying bird. Period.*

Temperature swings are minimal and managed within barns. Humidity is consistent regionally, as is insect pressure. Feed components and quality are mostly consistent and essentially within the control of the nutritionist, with mycotoxin variability only happening year-to-year or spotty regionally. Vaccination and feed-grade biologicals should be essentially uniform within a complex or integrator, as should the transportation, housing layout, inside barn air quality (seasonally), and sanitation/biosecurity. That leaves only the human element—daily decision making and labor/management quality—that is not really an input but certainly is often the “No. 1 make-or-break” factor determining overall profit and poultry performance.

So if water is the single greatest daily input variable within a complex or throughout regional integrator management, do you know what your water data looks like and if it is poor or unoptimized? And, what are you doing about it? For help with poultry water quality, please contact your MWI Animal Health Territory Manager today and let's look at your water data—together.

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