

## News &amp; Comments

**Avian Salmonellosis and Colibacillosis: Risk Factors and Antibiotic Resistance***Andrea Ricky*

One of the most significant sources of animal protein and revenue worldwide, and particularly in Africa, is poultry raising. Despite its significance, this subsector has significant disease challenges that impede the socio-economic and agricultural development of many nations. *Salmonella* spp. and *Escherichia coli*, respectively, are the predominant bacteria that cause colibacillosis and salmonellosis, which are both major sources of morbidity and mortality as either primary or secondary pathogens. One of the most typical bacterial illnesses in chickens is avian salmonellosis. It is brought on by bacteria of the *Salmonella* genus, a facultative intracellular pathogenic bacterium that causes local or systemic infections and is a member of the Enterobacteriaceae family, multiplying within the body.

This article's goals are to (1) summarize new data on the various serotypes that have been isolated and the virulence genes that go with them, and (2) Evaluate the impact on public health of bacterial resistance to antibiotics. (3) Examine some phytosanitary measures used to combat these bacteria in various parts of the world. One of the most often reported bacterial illnesses in chicken production is avian colibacillosis. It is brought on by the gram-negative, facultative, non-sporulating bacterium *Escherichia coli*.

Because of the increased infectious pressure in the environment, there is a greater chance of developing salmonellosis and colibacillosis. *Salmonella* and *Escherichia coli* are persistent in the environment around chickens in large part due to faecal contamination of soil. Rodents, parasitic insects, coprophages, and necrophages are also risk factors for contamination since they may act as *E. coli* reservoirs. Enteropathogens called *Salmonella* can be isolated from several different types of natural habitats, including freshwater, seawater, and soil. *Salmonella* and *E. coli* can persist in food, water, excrement, bedding, and other surfaces for longer than six months.

To manage bacterial illnesses like salmonellosis and colibacillosis, several antibiotics from various families are employed in chicken production. Tetracycline-class antibiotics, sulfonamides, penicillins, quinolones, aminoglycosides, polymyxins, and macrolides are a few of them. Over time, the regular use of these several antibiotic classes has enabled the creation of *Salmonella* and *Escherichia coli* strains that are multidrug-resistant. The development of resistance genes and the transmission of multidrug-resistant bacteria from animals to people through animal-derived foods remain serious threats. As a result, eating fowl carries a high risk of salmonellosis. It is a significant global public health issue that



has a significant economic impact due to the substantial morbidity it causes.

Since their discovery, antibiotics have been the primary therapeutic option for treating bacterial infections. However, overuse has sped up the formation and development of drug resistance, which is alarmingly spreading and endangering public health. Since medicinal plants have long been used to treat a variety of expensive ailments, phytochemical extracts are being examined as an alternative therapy to reduce the usage of antibacterials. Therefore, it's critical to manage resistant germs on farms to lower the likelihood that tainted poultry meat would end up in the hands of consumers.

#### **JOURNAL REFERENCE**

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#### **KEYWORDS**

Salmonellosis, colibacillosis, antibiotics, public health, aviculture

