

## PROBABILISTIC MODEL OF SCATTERING SALMONELLOSIS IN SWINE

Danila Maria Almeida de Abreu SILVA<sup>1</sup>  
Cláudio Tadeu CRISTINO<sup>1</sup>

- **ABSTRACT:** The proposed model describes a dynamic scattering of salmonellosis, governed by a system of ordinary differential equations that are perturbed by a *white noise*. The solution to this system is obtained by the Runge-Kutta method of second-order approximation, simulated in different scenarios. The result used to calculate the probability of a farm infection levels reach any given time and observing the creation and management standards.
- **KEYWORDS:** Salmonellosis; probabilistic model; stochastic differential equations; Runge-Kutta.

---

<sup>1</sup> Universidade Federal de Minas Gerais - UFMG, Comissão Permanente do Vestibular -- COPEVE, Belo Horizonte, MG, CEP: 31270-901, Brazil. E-mail: [carolinasend@gmail.co](mailto:carolinasend@gmail.co)