

Oral administration of the *Salmonella* Typhimurium vaccine strain Nal2/Rif9/Rtt to chicks at day of hatch reduces shedding and caecal colonization after challenge with a monophasic variant of *Salmonella* Typhimurium.

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A monophasic variant of *Salmonella* Typhimurium, *Salmonella enterica* serotype 1,4,[5],12:i:- is rapidly emerging worldwide. This serotype is now considered to be among the ten most common serovars isolated from humans in many countries. The public health risk posed by these emerging monophasic *Salmonella* Typhimurium strains is considered comparable to that of classical *Salmonella* Typhimurium strains. The serotype 1,4,[5],12:i:- is frequently isolated from pigs but also poultry is carrying strains from this serotype. In the current study, we evaluated the efficacy of the *Salmonella* Typhimurium strain Nal2/Rif9/Rtt strain (contained in the commercially available live vaccines AviPro® *Salmonella* Duo and AviPro® *Salmonella* VacT), to protect against infection with the emerging monophasic variant in poultry. Three independent trials were conducted. In all trials, laying type chicks were orally vaccinated with the *Salmonella* Typhimurium strain Nal2/Rif9/Rtt at day of hatch, while the birds were challenged the next day with a different infection dose in each trial (low, high and intermediate). For the intermediate dose study, a seeder bird model was used in which 1 out of 3 animals were challenge infected. All individual birds were infected in the other trials. Data obtained from each independent trial show that oral administration of the *Salmonella* Typhimurium strain Nal2/Rif9/Rtt at day of hatch reduced shedding, caecal and internal organ colonization of *Salmonella* Typhimurium 1,4,[5],12:i:-, administered at day 2 of life, suggesting protection through a colonization-inhibition phenomenon. This indicates that *Salmonella* Typhimurium strain Nal2/Rif9/Rtt can help to control *Salmonella* 1,4,[5],12:i:- infections in poultry.