

## **A review on the potential effects of *Mannheimia haemolytica* and its immunogens on the female reproductive physiology and performance of small ruminants**

### **ABSTRACT**

*Mannheimia haemolytica* causes pneumonic pasteurellosis (mannheimiosis) in ruminants which is the most economically significant infectious disease. *Mannheimia* belongs to the family Pasteurellaceae, are nonmotile, nonspore-forming, facultatively anaerobic, oxidase-positive and fermentative gram-negative rods or coccobacilli which are frequent respiratory and digestive tract commensals in both domestic and wild animals. They can produce infection in animals with compromised immune states. The capsular polysaccharide, lipopolysaccharide and iron-regulated outer membrane proteins are the major virulent factors of organism stimulating the host immunity. There is a significant gap on the effects of the *M. haemolytica* and its' immunogens on the physiology and performance of the reproductive system in small ruminants. Therefore, the goal of this review is to highlight the potential involvement of the female reproductive system with infection with *M. haemolytica* and its immunogens in small ruminants. Moreover, the review has directed the future research path to determine the role of this bacterium in the pathophysiology and performance of the female reproductive system.

**Keyword:** *Mannheimia haemolytica*; Pneumonic pasteurellosis; Immunogens; Reproductive physiology; Small ruminants