

Presence of *Salmonella* and *Escherichia coli* O157 in small-ruminant fecal samples from the Bahamas

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INTRODUCTION

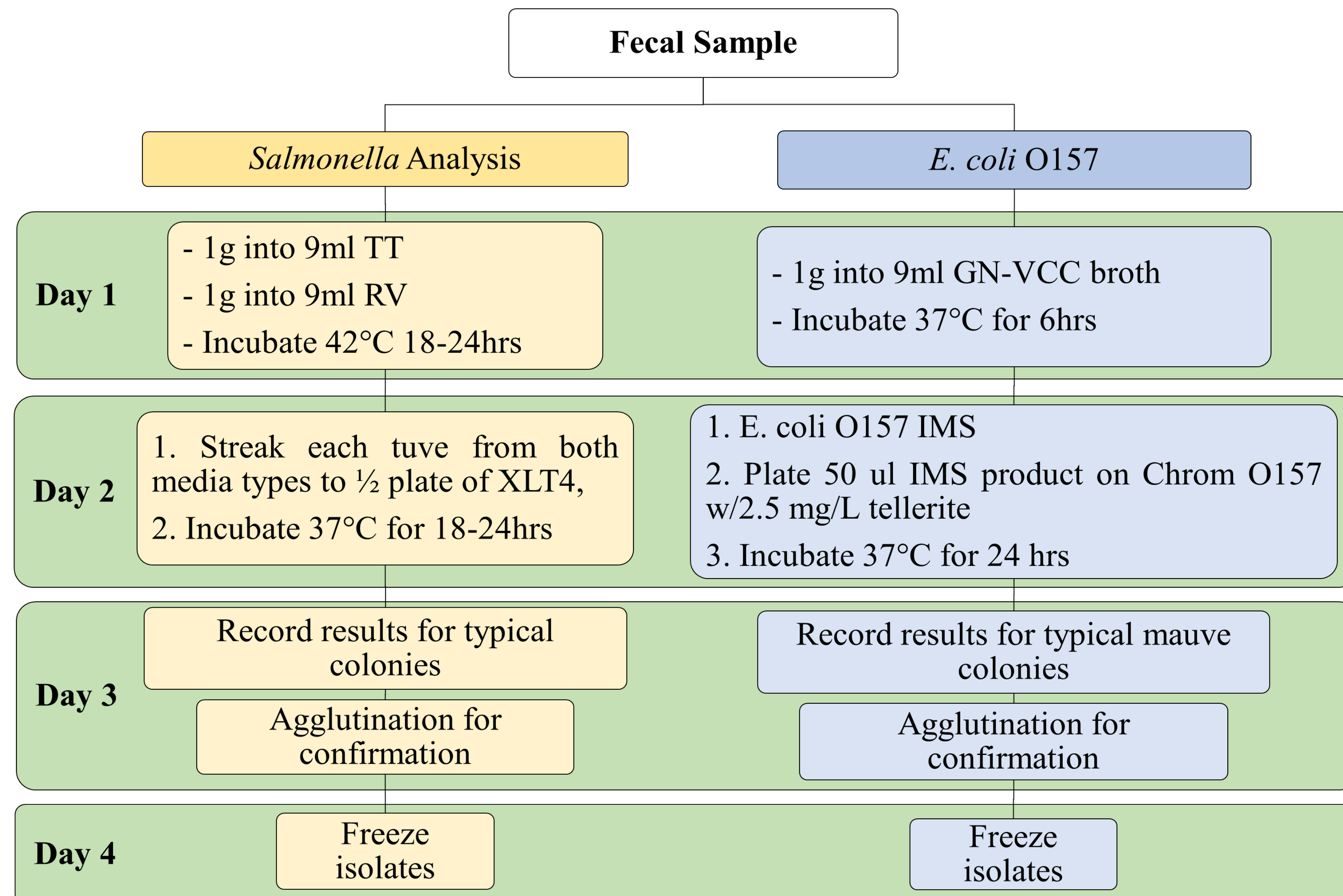
Salmonella and *Escherichia coli* are pathogenic microorganisms highly researched as a food safety concern, and frequently studied for their presence in livestock species. However, more information is needed on their presence in some species, such as sheep and goats. Information on the presence of these microorganisms in small-ruminants is necessary, so handling and processing methods can address potential pathogen risks.



OBJECTIVE

Provide information of the presence of *Salmonella* and *E. coli* O157 in small-ruminants in the Bahamas.

MATERIALS AND METHODS

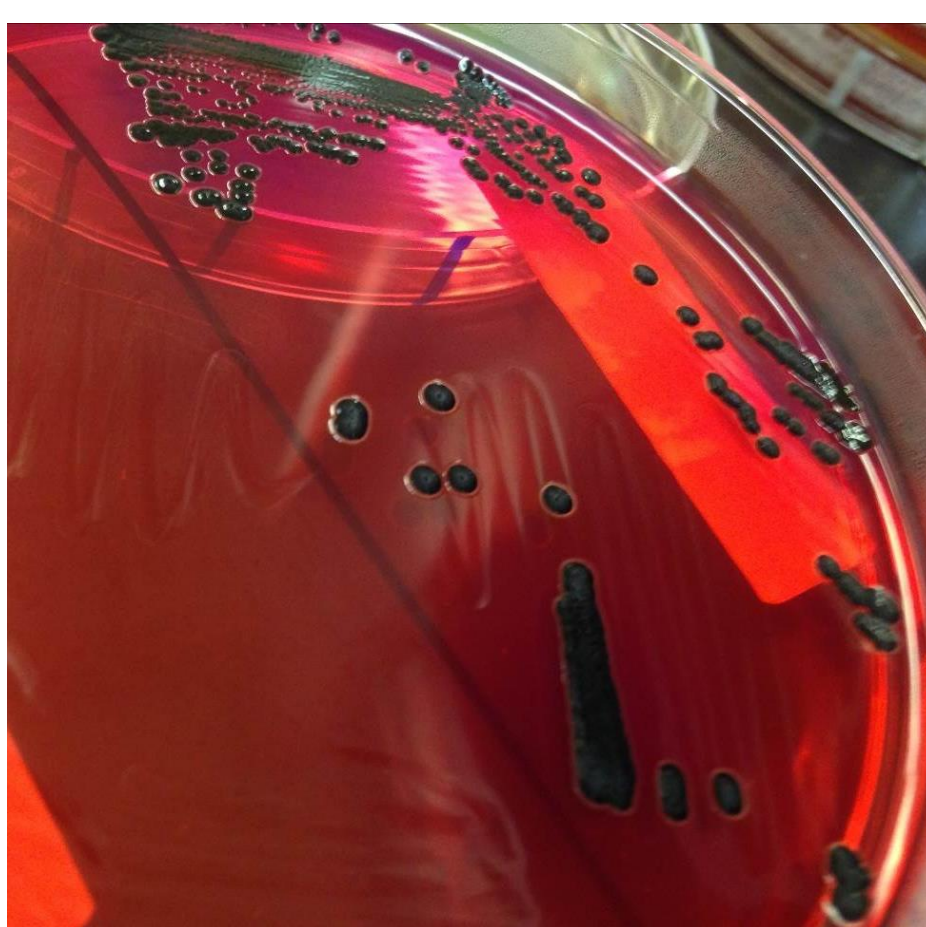


RESULTS

Table 1. Quantity of samples collected detailed by time and number of microbial samples analyzed

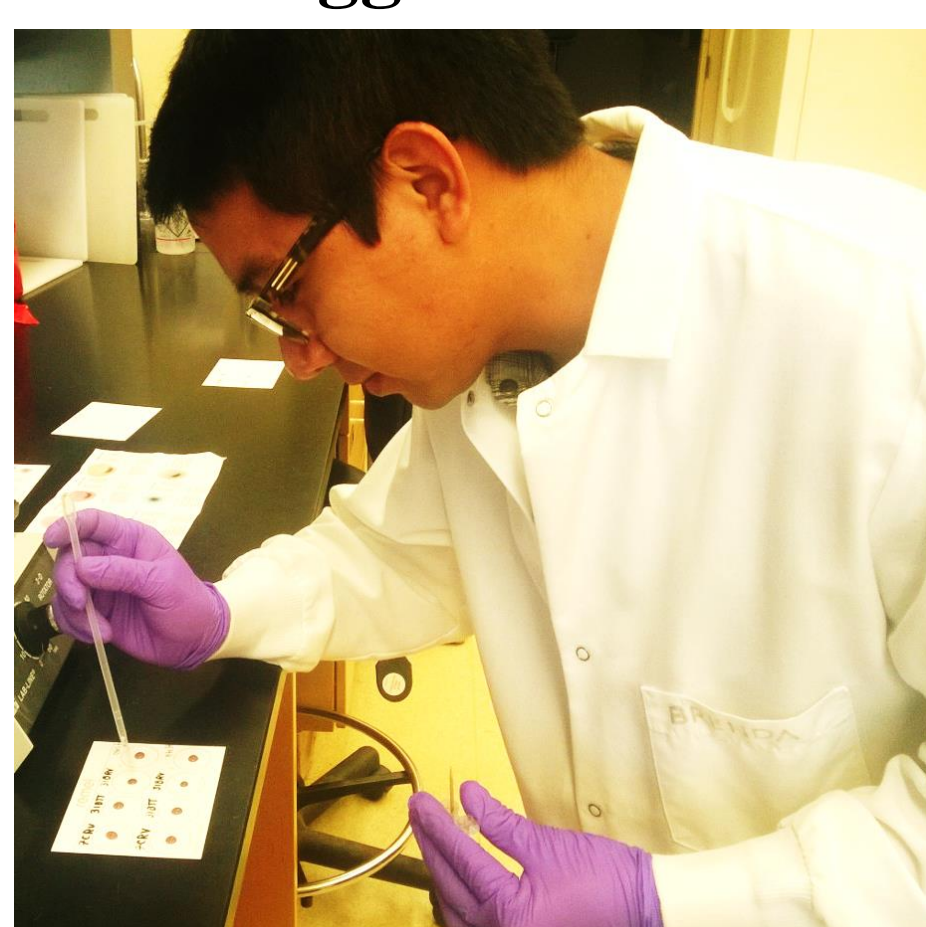
Location	Month & Year of collection	Samples analyzed for organism	
		<i>Salmonella</i>	<i>E. coli</i> O157
Bahamas	July 2014	28	28
	March 2015	78	78
	January 2016	40	40
	Total	146	146

Salmonella in XLT4 agar

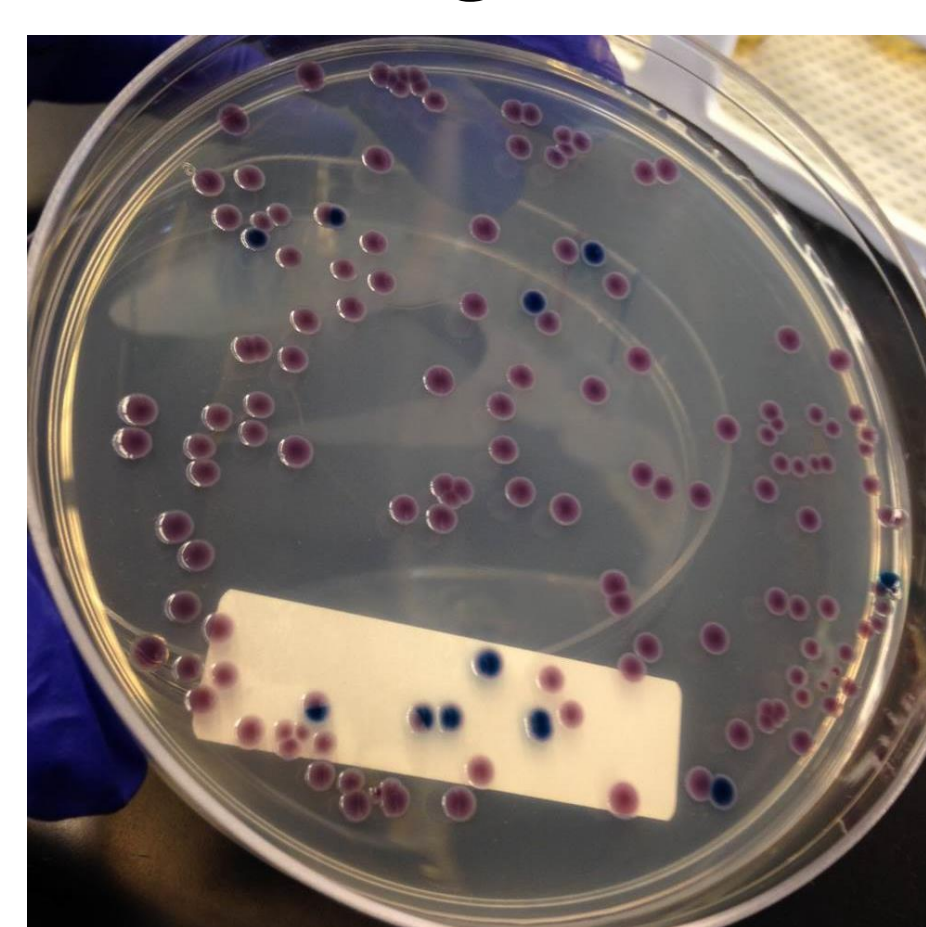


Salmonella was identified in 60 fecal samples (n=146). It had a presence of 41.10%.

Confirmation for agglutination



E. Coli O157 in CHROMagar O157



E. coli was identified in 18 fecal samples (n=146). It had a presence of 12.33%.

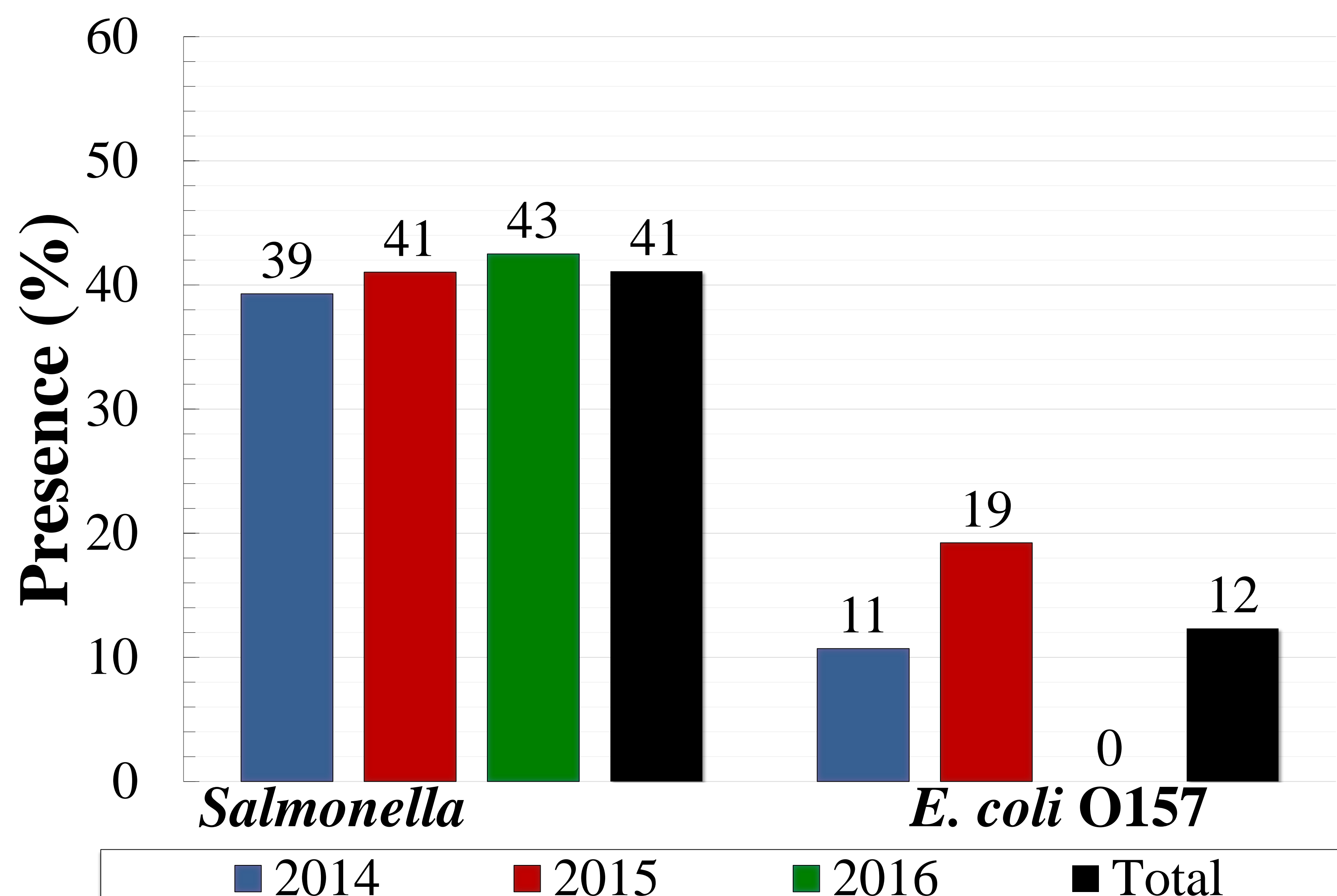


Figure 1: Presence of *Salmonella* and *E. coli* O157 in fecal samples of small ruminants from the Bahamas

CONCLUSION

These results confirm the presence of *Salmonella* and *E. coli* O157 in small-ruminant fecal samples from the Bahamas. The presence of *Salmonella* was greater than the *E. coli* O157 detected throughout the research. Hanlon et al. (2015) determined the presence of *Salmonella* in small-ruminant fecals was 8.62% (n=429) in the United States, when compared with frequency in the Bahamas of 41.10%. *Salmonella* presence in the Bahamas was four times greater than organism presence in the U.S. Presence of *E. coli* O157 in sheep and goat fecals from the Bahamas at 12.33% was comparable with the frequency of 15.63% (n=371) in the U.S. found by Hanlon et al. (2015). These results are also comparable with the reported presence of *Salmonella* and *E. coli* O157 from fecals of sheep and deer in the U.S. (Branham et al., 2005). Sheep and goats are a primary livestock species raised and harvested in the Bahamas. The presence of *Salmonella* and *E. coli* O157 emphasizes the importance of better understanding methods to monitoring, reduce and control these pathogens to reduce the risk for human illness.

REFERENCES

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