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Shigatoxin *E. coli* (STEC) in a Public Park at Different Seasons of the Year

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Background

In the U.S. STEC hemolytic uremic syndrome (HUS) is the most common cause of acute renal failure in children. In TN from 1996-2017 there were 2008 STEC cases were reported. Every year in the U.S., there 36 reported mortality each year. At our local children's hospital, 4-5 children are hospitalized with STEC infection each year. Some of these children had no history of ingesting food items that could have placed them at risk to develop STEC infection; however, there are other ways that humans could get infected, such as exposure to contaminated water from cattle farms.

Goal:

To determine if there are differences in the presence of STEC at a local park at different seasons of the year.

Methods:

Fifty (50) ml of water samples were collected from a creek in 2 areas of public park in Johnson City, TN. Samples were inoculated to Sorbitol McConkey Agar (SMAC) plates under sterile techniques & incubated at 36C for 18 hours under aerobic conditions

RESULTS: Table demonstrating presence of STEC from water samples at different seasons of the year.

SEASON OF THE YEAR	# COLONIES FOUNDERS PARK	# COLONIES LIBRARY PARK
SUMMER JUNE 2018	A:1 B:1 C:2 TOTAL: 4	A: 3 B: 2 C: 1 TOTAL: 6
FALL SEPT 2018	A: 1 B: 3 C: 2 TOTAL: 6	A: 1 B:2 C:4 TOTAL: 7
WINTER DEC 2018	A: 1 B: 0 C: 1 TOTAL: 2	A: 0 B: 1 C: 1 TOTAL: 2
SPRING MARCH 2019	A: 2 B: 2 C:1 TOTAL: 5	A: 0 B: 0 C: 0 TOTAL: 0

Discussion/Conclusion:

STEC was present at almost every season of the year. Public health measures should be undertaken to inform the community that these waters around public parks are contaminated with STEC to prevent STEC infection.

References:

- TN Dept of Health CEDEP report
- CDC website