

# Assessing the microbiological quality of raw goat's and ewe's bulk-tank milk samples in Switzerland

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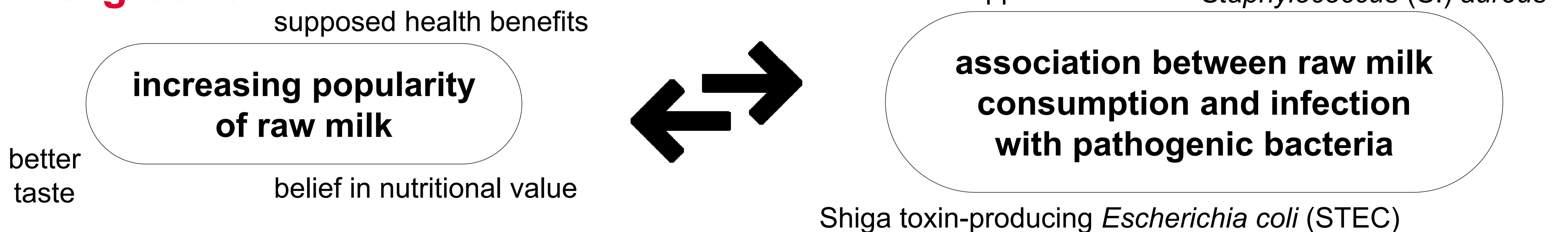
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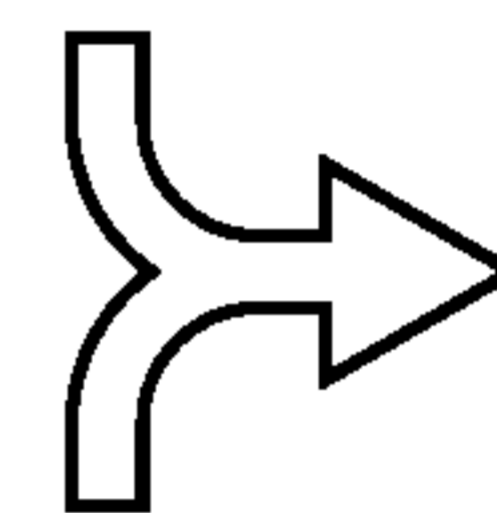
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## Background



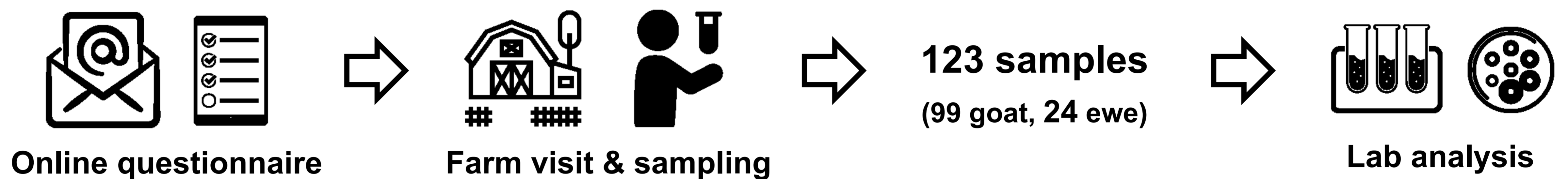
## Objectives

- Enumerate total viable counts (TVC) and *Escherichia (E.) coli* counts
- Generate up-to-date prevalence data for *S. aureus*, *Salmonella* spp. and STEC
- Screen for MRSA and ESBL-producing Enterobacteriaceae

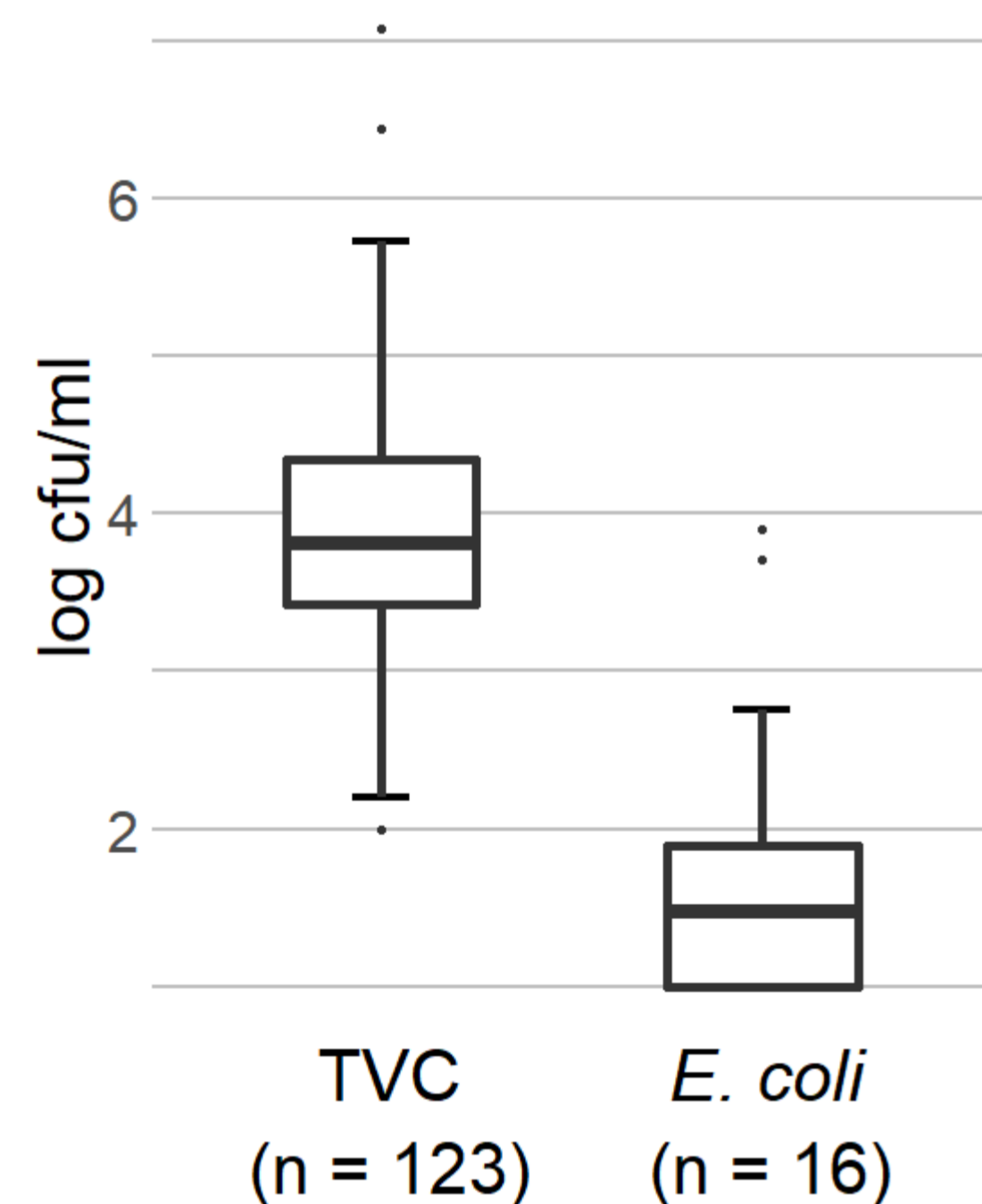


Provide further characteristics of isolated strains

## Material & Methods



## Results



Observed prevalences and comparison with other studies.

Parameter	Prevalence	Rating / Comparison with other studies
<i>E. coli</i>	13%	👍 Lower prevalence
STEC	11%	👍 Similar results (but only very few studies)
<i>S. aureus</i>	15%	👎 Lower prevalence, but many enterotoxin genes
MRSA	3%	👎 Higher prevalence

### Statistically significant associations:

- Animals on farm ↑ → TVC ↑
- Sanitary Service for Small Ruminants membership → TVC ↓, *E. coli* ↓
- *Salmonella* spp. and ESBL-producing Enterobacteriaceae were not detected in any sample.

Characteristics of 22 *S. aureus* isolates.

Count (%)	Clonal complex	se genes	tst1 gene	Capsule type	MRSA
3 (14%)	CC398	-	-	5	yes
1 (5%)	CC8	sec, sel, egc	-	5	yes
3 (14%)	CC130	-	-	8	-
4 (18%)	CC130	sec, sel	+	8	-
8 (36%)	CC133	sec, sel	+	8	-
1 (5%)	CC30	sea, egc	+	8	-
1 (5%)	CC398	-	-	5	-
1 (5%)	CC522	-	-	8	-

Characteristics of 9 STEC isolates.

Count (%)	stx1	stx2	eae
1 (11%)	stx1a	-	+
1 (11%)	stx1a	stx2a, stx2d	-
3 (33%)	stx1c	-	-
4 (44%)	stx1c	stx2b	-

## Conclusion

Overall, microbial quality of raw goat's and ewe's milk in Switzerland has improved during the last 15 years and is favourable also compared to studies from other countries.

Voluntary programmes should be encouraged as they help to improve milk hygiene status.

## Acknowledgements

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