

Pests as carriers of zoonotic bacteria on production farms – a pilot study

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The study

Zoonotic pathogens can be transmitted to humans via animal-derived foods, contaminated water, or cross contamination. Production animals can be carriers, acquiring the infection via different routes, such as from the farm environment or contaminated feed. Knowledge on the occurrence of zoonoses in rodents and other pest animals may help to estimate the contamination risk they pose to food of animal origin. The objective of the pilot study was to test a trapping protocol for rodents and shrews and to examine whether these animals in Finland carry *Campylobacter* or *Salmonella* in their intestines.

Significance

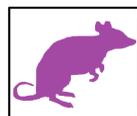
The results of the pilot study showed that the rodents in Finland may carry both *Campylobacter* and *Salmonella* in their intestines and that the trapping protocol is suitable for a larger study. Next, the routes of pathogenic, potentially resistant bacteria from feed, pest animals and the environment to production farms are investigated. Based on the results, recommendations regarding pest management can be given. Increasing knowledge on the pathways of zoonotic pathogens in food-producing animals may help risk managers to target their actions accordingly, to prevent food-mediated zoonotic infections in consumers.

Campylobacter and Salmonella in small mammals in Finland

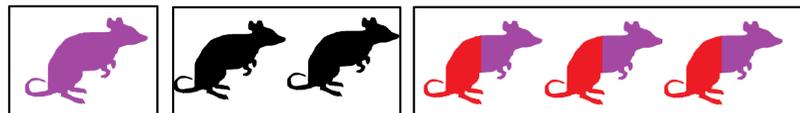


Figure
Captured rodents and shrews. *Campylobacter jejuni* positive rodents are marked with purple color and *Salmonella* Typhimurium positive mice with red color. Frames represent pooled samples. The pests were trapped during autumn 2016 nearby two cattle farms and two houses not in proximity to production farms. They were transported to a laboratory where *Campylobacter* and *Salmonella* were examined from their intestinal contents with standard methods.

Farm 1



Farm 2



Control 1



Control 2



Acknowledgements

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