

### Forschungsprojekte an der Wiederkäuerklinik der Vetsuisse-Fakultät Bern

Forschungsschwerpunkt	Sperrmilch
Projekttitel	Reservoirs of antimicrobial resistant bacteria in the calves' environment on farms feeding milk with or without antimicrobial residues
Inhalt	<p>Development and persistence of antimicrobial resistance (AMR) on dairy farms are a complex phenomenon. In young dairy calves, studies have shown that even in the absence of selection pressure, fecal bacterial resistance is acquired during the first weeks of life, and then declines. Specific reservoirs for this phenomenon (both for resistant strains and for susceptible strains that replace them) remain to be identified, but available data point toward the calves' environment.</p> <p><i>In vivo</i> selection of resistance in fecal bacteria has been reported following antimicrobial therapy. Furthermore, recent studies highlighted that treatment of calves with antimicrobial drugs can result in the establishment of a reservoir of resistant bacteria in the calves' pen and in adjacent pens. Feeding calves with waste milk containing low concentrations of antimicrobial residues has also been shown to select for AMR in calves' fecal flora. However, whether this also affects AMR in bacteria from the calves' environment is unknown.</p> <p>The objectives of this study are:</p> <ol style="list-style-type: none"> <li>1) To describe AMR patterns in bacteria isolated from the calves' environment in herds in which calves are fed milk with or without antimicrobial residues;</li> <li>2) To evaluate potential sources of calves' exposure to antimicrobial resistant bacteria.</li> </ol>
Hauptverantwortliche	Wiederkäuerklinik
Kollaboration	Institut für Veterinär-Bakteriologie
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