

# Comparative analysis of antimicrobial usage in farms housing pigs exclusively or cattle alongside

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## Introduction

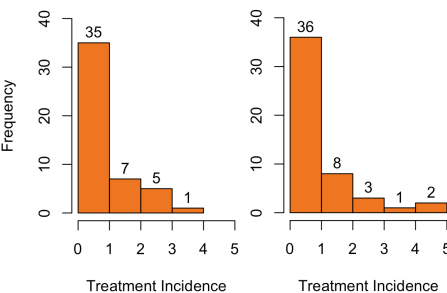
Antimicrobial resistance (AMR) is an increasing threat for human and animal health and imprudent antimicrobial usage (AMU) is a major cause for the development of AMR in livestock production (1). The Swiss Federal Food Safety and Veterinary Office established the national reporting system IS ABV for monitoring and quantification of AMU in Switzerland (2). The objectives of this study were to analyze AMU in fattening pigs using IS ABV data. Differences in AMU were investigated between farms housing pigs exclusively and mixed farms housing pigs alongside cattle.

## Material & Methods

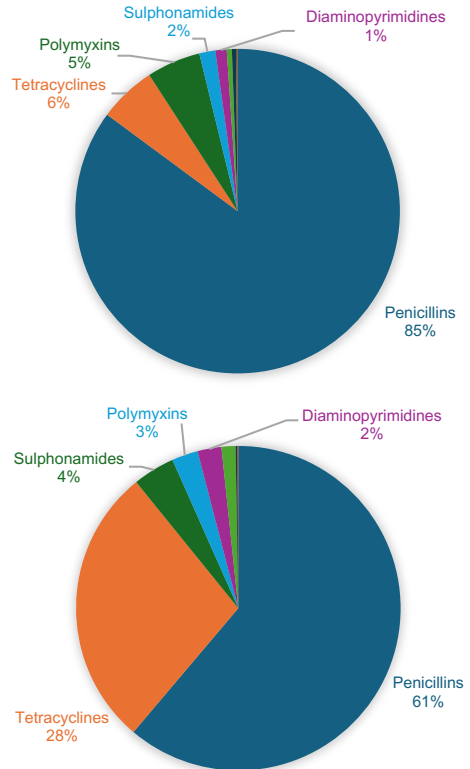
AMU was calculated in total for all farms (n=99) and specifically for the antimicrobial classes of Penicillins and Tetracyclines. Calculation was carried out using a treatment incidence (TI) based on Defined Daily Doses (DDD) by the European Medicines Agency (3). Statistical comparisons were performed using the Mann-Whitney-U-Test.

## Results

From January to October 2022 there were a total of 232 prescriptions in 99 farms, including 146 prescriptions in 49 pig farms and 86 prescriptions in 50 mixed farms. A median total AMU of 0.28 DDD/pig/year (min: 0.00028; max: 30.7) for pig farms and of 0.09 DDD/pig/year (min: 0.00275; max: 4.96) for mixed farms was calculated. For Penicillins, the median TI for both farm types was 0.02 DDD/pig/year. The median TI for Tetracyclines for pig farms and mixed farms was 0.0 DDD/pig/year. No significant differences between the types of farms were found concerning total AMU or any specific active substance.



**Figure 1:** Distribution of total TI per farm, left: pig farms, right: mixed farms  
One pig farm with TI=30.7 is excluded as outlier for better depiction and comparison between the farm types



**Figure 2:** Total AMU according to classes of active substances in pig farms (above) and mixed farms (below)

## Conclusion

No association of specialization of the farmers on pigs on AMU was found in this study. Overall low AMU in combination with moderate sample size could have limited the detection of such effects.

## Keywords

Antimicrobial usage, fattening pigs, Switzerland

## References

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