



447 Research paper

Antimicrobial use and resistance in swine waste treatment systems

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In **Significant Impact Groups:**

Pathogen management \ None Precision Livestock Farming & Early

Species targeted: Pigs;

Age: Not stated;

Summary:

Chlortetracycline and the macrolide tylosin were identified as commonly used antimicrobials for growth promotion and prophylaxis in swine production. Resistance to these antimicrobials was measured throughout the waste treatment processes at five swine farms by culture-based and molecular methods. Conventional farm samples had the highest levels of resistance with both culture-based and molecular methods and had similar levels of resistance despite differences in antimicrobial usage. The levels of resistance in organic farm samples, where no antimicrobials were used, were very low by a culture-based method targeting fecal streptococci. The levels of tetracycline and MLSB resistance remained high throughout the waste treatment systems, suggesting that the potential impact of land application of treated wastes and waste treatment by-products on environmental levels of resistance should be investigated further.

447 Research paper - Jindal - 2006 - Antimicrobial use and resistance in swine waste treatment systems

Where to find the original material:

<https://aem.asm.org/content/72/12/7813>; 10.1128/AEM.01087-06

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