Association between the consumption of antimicrobial agents in animal husbandry and the occurrence of resistant bacteria among food animals

Antimicrobial agents are used in food animals for therapy and prophylaxis of bacterial infections and in feed to promote growth. The use of antimicrobial agents for food animals may cause problems in the therapy of infections by selecting for resistance among bacteria pathogenic for animals or humans. The emergence of resistant bacteria and resistance genes following the use of antimicrobial agents is relatively well documented and it seems evident that all antimicrobial agents will select for resistance. However, current knowledge regarding the occurrence of antimicrobial resistance in food animals, the quantitative impact of the use of different antimicrobial agents on selection for resistance and the most appropriate treatment regimens to limit the development of resistance is incomplete. Surveillance programmes monitoring the occurrence and development of resistance and consumption of antimicrobial agents are urgently needed, as is research into the most appropriate ways to use antimicrobial agents in veterinary medicine to limit the emergence and spread of antimicrobial resistance. (C) 1999 Elsevier Science B.V. and International Society of Chemotherapy. All rights reserved.