

The potential use of graphene and its derivatives in animal breeding

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Summary

The potential of 'nano' products based on graphene and its derivatives is enormous and will contribute to the development and commercial introduction of innovative solutions for use in animal breeding and veterinary care, aimed at ensuring animal welfare. Due to the everyday use of biocidal agents for the hygiene of breeding facilities and animals, the crucial strategic applications of graphene and its derivatives should include antimicrobial activity and adsorption. Graphene and its derivatives may in the future become an alternative to antimicrobial and biocidal agents. Furthermore, they may bind residues of agents used in animal breeding from the breeding environment, limiting their harmful impact on the natural environment. The potential clinical use of graphene and its derivatives for wound healing in veterinary and human medicine remains a significant challenge. The safety of their use is a new area of toxicological research and requires the adoption of an appropriate strategy to estimate the risk to human and animal health.

KEY WORDS: antimicrobial effect, biocompatibility, graphene, wound healing