

研究论文

# 恩诺沙星对小型模型水生态系统中微生物的影响

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**摘要** 恩诺沙星是畜禽养殖业中广泛应用的抗菌药, 它进入畜禽体后, 会随畜禽的排泄物进入环境, 对生态环境造成影响。通过人工构建的小型模型水生态系统, 研究了恩诺沙星在水体的降解及其对水生态系统微生物的影响, 为其生态风险评价提供数据。试验设5个浓度系列, 1个空白对照。结果表明: 在试验中, 恩诺沙星的降解速度很快, 经5h后就已降到原始浓度的50%以下, 之后随时间推移, 降解速度逐步减慢。在试验初始浓度0.2~5mg/L的范围内, 恩诺沙星对水体中的好氧细菌、真菌、放线菌、氯化细菌和硝化细菌的数量均无显著影响。讨论了恩诺沙星进入水环境后的生态效应。

**关键词** [恩诺沙星](#); [小型模型水生生态系统](#); [微生物](#)

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## Effects of enrofloxacin on microorganisms in wetlands

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**Abstract** Enrofloxacin is a widely used antibiotics in animal production. Animal excreted residual enrofloxacin which can adversely affecting the environment. The effects of 5 concentrations of enrofloxacin (0, 0.2, 0.5, 1, 2, 5mg•L<sup>-1</sup>) on the aquatic microorganisms and their degradation rates were determined in a constructed wetland to assess the ecological risk of enrofloxacin on aquatic ecosystem. The results showed that enrofloxacin was rapidly degraded in the wetland environment in the initial stage, with more than 50% degraded within the first 5hours. And thereafter the degradation rate of enrofloxacin slowed down. The results indicated that enrofloxacin concentrations of 0.2~5mg•L<sup>-1</sup> had no significant effects on the population of aerobic bacteria, fungus, actinomycetes, nitrite bacteria and nitrate-reducing bacteria under aquatic environment. The ecological effects of enrofloxacin on aquatic ecosystem were also discussed.

**Key words** [enrofloxacin](#); [aquatic microcosmos](#); [microorganisms](#)

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