

沈兴玲,尹沙沙,郑君瑜,卢清,钟流举-广东省人为源氨排放清单及减排潜力研究[J].环境科学学报,2014,34(1):43-53

广东省人为源氨排放清单及减排潜力研究

Anthropogenic ammonia emission inventory and its mitigation potential in Guangdong Province

关键词: [人为氨源](#) [排放清单](#) [畜禽](#) [广东省](#) [减排潜力](#)

基金项目: [国家自然科学基金-广东省联合基金项目 \(No. U1033001\)](#); [国家自然科学基金项目 \(No. 41175085\)](#); [环保公益性行业科研专项 \(No. 201109008\)](#)

作者 单位

沈兴玲 华南理工大学环境与能源学院, 广州 510006

尹沙沙 华南理工大学环境与能源学院, 广州 510006

郑君瑜 华南理工大学环境与能源学院, 广州 510006

卢清 华南理工大学环境与能源学院, 广州 510006

钟流举 广东省环境监测中心, 广州 510308

摘要: 根据各类氨排放源活动水平数据, 采用排放因子法, 建立了2010年广东省人为源氨排放清单, 在分析其排放特征的基础上探讨了氨的减排潜力. 结果表明: 2010年广东省人为源氨排放量为582.9 kt, 畜禽和氮肥施用是排放贡献最大的人为源, 分别占总排放量的44.2%和40.4%; 茂名、湛江和肇庆依次是排放量最大的3个城市, 共占广东省总排放量33.0%; 在畜禽源中, 肉猪排放量最大, 占畜禽源排放总量44.4%, 其次是肉鸡、母猪和黄牛, 分别占16.0%、15.2%和6.5%; 畜禽在畜舍、储存管理、农田施肥和放牧4个养殖阶段的氨排放量不同; 控制农业源对NH₃的减排起关键性作用, 茂名、湛江和肇庆是广东省重点控制的3个城市, 肉猪、母猪、肉鸡、黄牛和氮肥施用则为重点控制源, 主要控制措施包括低氮饲料喂养、畜舍改造、粪便密封、粪肥注施、延长放牧时间和使用尿素替代物.

Abstract: Based on the activity data of ammonia emission sources, a 2010-based anthropogenic ammonia emission inventory for Guangdong Province was developed using emission factor method, and the ammonia emission mitigation potential was also discussed based on the emission characteristics. The results show that the total anthropogenic ammonia emission of Guangdong Province was 582.9 kt in 2010. Livestock and application of N fertilizer were main contributors, accounting for 44.2% and 40.4% of total NH₃ emission, respectively. Maoming, Zhanjiang and Zhaoqing were the top three cities of ammonia emissions, accounting for 33% of total NH₃ emission in Guangdong Province. Hog was the largest contributor with 44.4% of total livestock emission, followed by the broiler, sow and yellow cattle with contributions of 16.0%, 15.2% and 6.5%, respectively. Ammonia emissions from livestock manure source differed in the stage of animal house, storage and application of manure and grazing. Control of agricultural emissions played a key role in ammonia emission abatement. Maoming, Zhanjiang and Zhaoqing were key control cities, while hog, sow, broiler, yellow cattle and application of N fertilizer were vital sources for reducing ammonia emissions. Low nitrogen feed, animal house adaption, covered storage, injection of manure, extension of grazing time, and urea substitution can be considered as major control measures to reduce ammonia emissions in Guangdong Province.

Key words: [anthropogenic ammonia emission source](#) [emission inventory](#) [livestock](#) [Guangdong Province](#) [emission mitigation potential](#)

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服务热线：010-62941073 传真：010-62941073 Email: hjkxxb@rcees.ac.cn

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