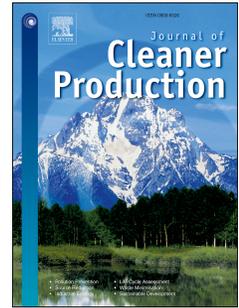


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Environmental, economic and social analysis of peri-urban pig production

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1 Environmental, economic and social analysis of peri-urban 2 pig production

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11 **Abstract:**

12 Intensive livestock production expands rapidly around cities to meet the food demand
13 and the improvement of people's living standard in developing countries, such as China.
14 However, little is known about the environmental costs and socio-economic performances of
15 these systems. Here, the performance of peri-urban pig farms in Beijing was assessed, using
16 data of a comprehensive survey conducted on 92 pig farms during 2012-2013 and calculations
17 with the Nutrient flows in Food chains, Environment and Resources model. 13 indicators
18 related to environmental, economic, and social aspects were selected for this assessment. This
19 is an important study unravelling the complexity and dynamics of the pig production system
20 in peri-urban area. Results show that larger farms performed better than smaller farms, mainly
21 because large farms had lower feed cost and better manure management. Nitrogen and
22 phosphorus surplus were negatively related to farm size and farm income positively, when
23 expressed per unit of pork produced. Nitrogen and phosphorus use efficiency at animal level
24 ranged from 21 to 26% and 28 to 34%, respectively. Meanwhile, the rate of nutrient surplus

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