

# Clean compost: pollution control: during composting of livestock and poultry manure

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## Abstract

Intensive animal husbandry had aroused great environmental concerns in many developed countries. However, some developing countries are still undergoing the environmental pollution from livestock and poultry sectors. Driven by the large demand, China has experienced a remarkable increase in dairy and meat production, especially in the transformation stage from conventional household breeding to large-scale industrial breeding. At the same time, a large amount of manure from the livestock and poultry sector is released into water bodies and soil, causing eutrophication and soil degradation. This condition will be reinforced in the large-scale cultivation where the amount of manure exceeds the soil nutrient capacity, if not treated or utilized properly. Our research aims to analyze whether the transformation of raising scale would be beneficial to the environment as well as present the latest status of livestock and poultry sectors in China. The estimation of the pollutants generated and discharged from livestock and poultry sector in China will facilitate the legislation of manure management. This paper analyzes the pollutants generated from the manure of the five principal commercial animals in different farming practices. The results show that the fattening pigs contribute almost half of the pollutants released from manure. Moreover, the beef cattle exert the largest environmental impact for unitary production, about 2–3 times of pork and 5–20 times of chicken. The animals raised with large-scale feedlots practice generate fewer pollutants than those raised in households. The shift towards industrial production of livestock and poultry is easier to manage from the environmental perspective, but adequate large-scale cultivation is encouraged. Regulation control, manure treatment and financial subsidies for the manure treatment and utilization are recommended to achieve the ecological agriculture in China.

**Keywords:** livestock, poultry, eutrophication; soil degradation; cultivation; fewer pollutants.