

## 污泥酵制园林营养土好氧-厌氧交替法可行性分析

Feasibility analysis of fermenting sludge into garden nutritional soil by using aerobic-anaerobic alternative method

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英文关键词: [aerobic-anaerobic alternative method](#) [dewatered sludge](#) [nutritional soil](#) [garden](#)

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中文摘要:

为研究好氧-厌氧交替法用于脱水污泥酵制园林营养土达到无害化、营养化、腐殖化(三化)目标的可行性,开展了好氧、厌氧、交替实验效果分析。结果表明:大肠菌群死亡率,酵温50℃时为80%,60℃时为95%;好氧、厌氧、交替,冬季最高酵温分别为52.5、29.5、52.2℃(夏季分别为62.5、41.8、64℃),大肠菌群达标所需时间好氧、交替均为8d(冬)和3d(夏),厌氧28d以上;平均碱解氮,厌氧0.859g/kg>交替0.856g/kg>好氧0.798g/kg;20d后平均有效磷,交替1.852g/kg>好氧1.692g/kg>厌氧1.636g/kg;20d后平均有效钾:交替14.215g/kg>好氧13.187g/kg>厌氧11.945g/kg;20d后平均腐殖质,交替10.510g/kg>厌氧9.398g/kg>好氧8.768g/kg。分析可知,好氧法、交替法可使发酵污泥达到无害化,营养化、腐殖化指标交替法高于好氧法,交替法用于污泥酵制园林三化营养土可行,其控制参数需实验确定。

英文摘要:

In order to study the feasibility of aerobic-anaerobic method used in the dewatered sludge produced to harmless, nutritive and humic garden nutritional soil, the test of analyzing the effect of aerobic method, anaerobic method and alternative method was carried out. The results indicated that, the mortality rate of coliform was 80% at 50℃ in the fermentation system temperature and was 95% at 60℃, the highest temperature of aerobic method, anaerobic method and alternative method in winter was 52.5, 29.5 and 52.2℃ (62.5, 41.8 and 64℃ in summer), respectively. The time of the coliform number reaching the standards in aerobic method and alternative method were both 8 days in autumn (3 days in summer), and anaerobic method were more than 28 days. The average values of alkali-hydrolyzable nitrogen for anaerobic method, alternative method and aerobic method were 0.859, 0.856 and 0.798 g/kg, respectively. The average values of available phosphorus after 20 days in the

fermentation for alternative method,aerobic method and anaerobic method were 1.852,1.692 and 1.636 g/kg, respectively.The average values of available potassium after 20 days in the fermentation for alternative method,aerobic method and anaerobic method were 14.215,13.187 and 11.945 g/kg, respectively.The average values of humus after 20 days in the fermentation for alternative method,anaerobic method and aerobic method were 10.510,9.398 and 8.768 g/kg, respectively.According to the results,in garden nutritional soil produced from dewatered sludge aerobic method and alternative method could satisfy the harmless,alternative method could satisfy both nutrition and humification,and was better than aerobic method.Results show that alternative method is feasible in sludge fermented into nutritional soil with three guidelines.However,the control parameter of alternative method should be operated through experiment.

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