

EM deodorant Treatment in Guangzhou

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Abstract

EM deodorant has been demonstrated in refuse dumping site and RCSs in Guangzhou successively to extinguish of bad odor in the stations with a modified activation formula. Now this method is applied in over 110 RCSs in the city.

Keywords: China, refuse collection, deodorant,

Introduction

In 1990's Guangzhou government started to build Refuse Collection Stations (RCSs) to gather and compress the garbage. However, RCSs are located very closely to houses and residents find bad odor generated from the RCSs irritating. Facing with lots of complaints, the government ceased building RCSs and tried many methods to solve the problems but none of them worked.

Results and discussion

In September 1998, the Guangzhou government agreed to try EM deodorant treatment in Likeng – the oldest refuse-dumping site in Guangzhou. After 21 days of treatment, the bad odors disappeared. Then experiment was started in 2 RCSs – the Huangsha and Dongfengxi stations to investigate whether this treatment can be employed to eliminate the bad odor from RCSs (table 1). After 3 weeks of treatment, the result is listed in the table 2.

Table 1. EM deodorant demonstration in RCSs in Guangzhou

| RCSs | Refuse (tons/day) | No of carts In the RCS | Treatment started | EM dosage (litres) | Times/day | Methods of application |
|------------|----------------------|---------------------------|----------------------|-----------------------|-----------|---------------------------|
| Huangsha | 81 | 3 | Nov.1998 | 10 | 3 | Spraying |
| Dongfengxi | 54 | 2 | Nov.1998 | 6 | 3 | Spraying |

Table 2. Effect on the air quality after EM deodorant treatment in RCSs

| Stations | Huangsha | | | Dongfengxi | | |
|------------------|----------|-------|------------|------------|-------|------------|
| | Before | After | Efficiency | Before | After | Efficiency |
| NH ₃ | 0.963 | 0.583 | -39.5% | 0.524 | 0.196 | -62.6% |
| H ₂ S | 0.025 | 0.017 | -32.0% | 0.018 | 0.012 | -33.3% |

3 months later, EM deodorant treatment was employed in all RCSs in the city. More than 110 RCSs are now operating in the city and the number will reach 160 by mid-2002. After the treatment is employed, much fewer flies are observed in the stations, bad odor disappears and we have evidence to show that even the sewage system is cleaned up the EM running down into the drainage. Currently second generation of equipments has been developed include finer nozzles system and automatic spraying control unit to lower the workload of the worker in the station.