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模拟条件下高尔夫球场土壤氮磷淋溶规律及其对水质的潜在影响

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摘要：

对毗邻深圳铁岗水库因扩建即将被淹没的高尔夫球场土壤中的氮磷的浸出物随时间的演化进行了模拟试验研究。结果表明：球场土壤中的淋溶物对水质的pH值影响较小；土壤中的有机物质浸出较为缓慢；有效磷较快浸出并溶入水体，但随着时间的推移其又被土壤吸附；土壤中的氮素浸出较快，并随着时间推移水体中总氮和硝酸盐氮含量呈上升趋势，二者含量高时可达原入库水含量的3倍。但由于库底土壤的氮磷含量较低，结合淹没时入库水的实际情况及自然因素，水库蓄水后，随着水库的正常运行，水体的不断交换，这种影响将会达到新的动态平衡，从整体趋势看，即将被淹没的深圳聚豪会高尔夫球会的部分球场土壤中氮磷浸出物对水质不会产生显著不良影响.

关键词： 高尔夫球场；氮磷；淋溶；水质；影响

Studies on eluviation patterns of nitrogen and phosphorus in soil of golf course and the potential impact on water quality under simulative conditions

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Abstract:

The dynamic variation of nitrogen and phosphorous movement in soil of golf course which is close to Tiegang Reservoir in Shenzhen and its impacts on water quality were studied under simulative conditions. The results indicated that the eluviated matters shown little impact on pH of water. The eluviating speed of organic matters in soil was very slow but it was fast for phosphorus and along the time the phosphorus was absorbed by soil. Nitrogen in soil could be rapidly eluviated than phosphorus. The total contents of nitrogen and nitrate increased gradually along with the time, which were three times more than that of water in the reservoir. Considering the low content of nitrogen and phosphorus in submerged soil, as well as the practical conditions and the natural factors in the time when the reservoir was submerged, the reservoir will come to a new dynamic balance after water was stored through water cycling. So it could be concluded that the eluviated nitrogen and phosphorous from soil of Shenzhen Tycoon Golf Course would not negatively affect the water quality of Shenzhen Tiegang Reservoir.

Keywords: golf course nitrogen and phosphorus dripping and dissolving；water quality impact

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