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Exhaust Characteristics and Loads of Fertilizer Nutrients in the Drainage from a Golf Course

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Abstract:

We researched the amount of chemical fertilizer used on a golf course, fertilizer nutrients and flows in the drainage from the golf course every 4 or 8 days during the period from June 1993 to May 1994. Using these data, the exhaust characteristics of fertilizer nutrients were clarified and these loads in the drainage were estimated through survey. The results were as follows : Seven kinds of chemical fertilizers were used in the golf course and a total of about 28 tons of fertilizer were supplied in a year. A large quantity of chemical fertilizer was sprayed on the putting green. Regarding the exhaust characteristic in the drainages, total nitrogen was detected a few days after fertilizer application and showed the highest concentration in May 1994 when lots of fertilizer was given. Total phosphorus was measured immediately after fertilizer application and higher concentrations were found in the spring. The load in the drainage from the golf course was 4 times total nitrogen and 43 times total phosphorus in comparison with those from the forest. From these results, it is suggested that the drainage from golf course pollutes irrigation water, river, drinking water and ground water widely.

Keywords:

Amount of exhaust water from golf course, Drainage from golf course, Environmental effluent load, Fertilizer, Potassium, Total nitrogen, Total phosphorus

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