

## Research regarding prevalence of sewage sludge endocrine disturbing chemicals

### [ Point ]

In recent years, environmental pollution by endocrine disturbing chemicals, which disturbs human and wild organisms' endocrine action, and also can be cause of reproductive dysfunction, has been reported in some countries, it is necessary to examine how to inhibit these substances in sewage disposal plants. In this research aimed to clarify endocrine disturbing chemicals behavior and prevalence in sewage sludge disposal system, and application destinations of sewage sludge recycled products, and examined analysis method of endocrine disturbing chemicals in sewage sludge sample, and researched regarding the behaviour of endocrine disturbing chemicals in application destinations of sewage sludge recycled products.

As a result, by using Pressurized Fluid Extraction, P F E method for extraction of nonyl phenols (nonyl phenol ( N P ) , nonyl phenol ethoxylate) from dried sludge, we compared with extraction by heating reflux method, which is generally used, and verified the possibility of extraction of 1.03 ~ 1.3 times more nonyl phenols took 1/4 times. In this reason, we proposed P F E method as an extraction method of nonyl phenols in sewage sludge sample. And also, we performed an effusion test of endocrine disturbing chemicals from compost applied soil, and clarified the tendency of degradation in soil, from the result that accumulative effluent rate of NP from rain, is low, as only 0.22 ~ 0.48% of initial abundance. However, to clarify NP behaviour more, we need to clarify substance balance including NP related substances, such as nonylphenoxyacetic acid, but, at present, there are many things to be examined regarding analysis method of sewage sludge sample, we need to examine right now, too.

Keyword : endocrine disturbing chemicals, sewage sludge, analysis, compost, lysimeter