

Monitoring of atmospheric mercury pollution using a leaf camphor tree (*Cinnamomum camphora* (L.) Sieb.)

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Source of mercury is divided into two anthropogenic sources such as incineration and sludge of fossil fuel and natural sources, such as by volcanic activity. Mercury discharged from these sources is present in the gaseous atmosphere mainly. On the other hand, trees are accumulated by adsorption or absorption in the leaves and bark of contaminants in the atmosphere. I am thought to absorb atmospheric pollution from the pores in the case of accumulation by the leaves. I was aimed at performing mercury pollution monitoring of air by measuring the mercury content in the leaves in this study. The absorption in the two years up fallen leaves from the deployment of new buds and evergreen broad-leaved tree, using the camphor tree(*Cinnamomum camphora* (L.) Sieb.) accumulation is expected to indicators of mercury pollution in the atmosphere. I was monitoring for the full year, including the winter an increase in use of fossil fuels is expected by this. It was possible sampling points you ' ve covered as being human influenced due to its proximity to urban areas, in Rissho University campus is located in Kumagaya, Saitama Prefecture. In addition, a point of performing region comparison was a sampling Kirryu City in Gunma, Ogose town in Saitama, Ueno Park in Tokyo, Sarue Park in Tokyo and Katsuura City in Chiba.

1. Changes in mercury concentration due to dry and weight change due to drying temperature of leaf

After drying for five hours, respectively 70 °C leaves, at 130 °C, it was found that 60 minute in 70 °C , it is 10 minute at 130 °C to constant weight. Mercury concentration at each temperature was 33.4ngg⁻¹ at 70 °C, 33.0ngg⁻¹ at 130 °C.

2. Mercury concentration in the leaves within the site-specific mercury concentration in leaves

I was measuring the mercury concentration of each site by dividing the top, middle, at the bottom toward the petiole from the tip of the leaf camphor tree. As a result, mercury concentration was 62.0ngg⁻¹ at the top, 67.0ngg⁻¹ at middle, 66.5ngg⁻¹ at the bottom. In addition, I compared the mercury concentration in leaves in removing the mercury deposited in the leaf and total mercury concentration in the leaves. It is a leaf inside was revealed that much of the mercury contained in the leaves.

3. Changes in mercury concentration in the leaves by the time series variation

I investigated the time series changes in mercury concentration accumulated in the leaves by the use of leaves of different leaf age.

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