

台灣北部陶瓷工廠排放氟化物在指標植物之 累積及驗證

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摘 要

此研究目的之一為調查了解台北縣鶯歌地區，各種植物體內氟含量之概況，以供畫出氟化物等量曲線(Iso-fluoride map)，為利用香蕉及相思樹體內氟含量畫出當地氟化物危害之範圍。

由植物體不同部位葉片病部、葉片健部、枝條、花、果實氟含量之分析可知，植物體氟化物含量多以葉片病部最高，以後依次為葉片健部、枝條、花、果實。但香蕉葉片甚大，其枯萎葉片以基部者高於尖部，顯示可能與淋洗有關，使氟含量有越往基部累積含量越高之趨勢。

在氟污染指標植物人工熏氣驗證方面，發現香蕉與相思樹有相似的臨界劑量，皆為 $38 \text{ ppb} \times 28 \text{ 小時}$ ，而唐菖蒲則遠較此二者為敏感。但唐菖蒲在田間分佈太少，故不適合作為氟污染分佈調查之監測植物，相對香蕉與相思樹因田間分佈普遍，而具有田間污染區調查評估之價值。

關鍵詞：香蕉；相思樹；氟化物；指標植物。

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Study on the Fluoride Accumulation in Indicator Plants Caused by Ceramic Factory in Northern Taiwan

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Abstract

The purpose of this study is to draw the damaged range of fluoride that used bananas and acacias in an area.

The fluoride different a portions of showed that the highest concentration existed usually at the diseased leaf portion, followed in decreasing order by healthy base; branches flowers, and fruits. For the very large leaf of banana, the fluoride contents in diseased portion at basal section were high than those at the tip portion, indicating the effect of leaching.

Bananas and acacia trees were exposed to 38 ppb HF for 7 hours × 4 days, that proved to be the threshold dose of these two plants. The 4 gladiolus varieties, however, showed much higher sensitivity to fluoride. The limited abundance of gladiolus limited the usefulness of gladiolus as a field indicating plant in Taiwan, whereas, the banana and Taiwan acacia are usually widely grown, and are suitably for use as field indicator as in this report, although they are the second highest sensitive species toward the fluoride.

Key words: Banana; acacias; fluoride; indicator plant.

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