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前植物生产层

不同水域中水葫芦对铅、镉、铬、汞的富集规律研究

纪苗苗, 林波, 吴跃明, 刘建新

摘要:

试验主要研究不同水域的水葫芦(*Eichhornia crassipes*)对铅、镉、铬、汞的吸收规律。采集浙江金华、绍兴等地8处不同水域的水葫芦样品及水样,采用原子吸收光谱法和原子荧光光谱法测定该4种重金属含量。结果表明:水污染严重区域,水葫芦中重金属含量较高。被调查地区水中铅、镉含量显著高于铬及汞含量( $P<0.05$ )。水葫芦根中各重金属含量总体高于茎叶,茎叶中镉的含量显著低于铬的含量( $P<0.05$ ),而根中镉含量也低于铬但差异不显著( $P>0.05$ )。在试验条件下,随着水中铅、镉含量的增加,根与茎叶中相应金属含量有上升趋势。

关键词: 水葫芦 重金属 不同水域 茎 叶 根

Study on the enrichment patterns of Pb, Cd, Cr and Hg in water hyacinth in different water areas

Ji Miao-Miao, Lin Bei, Tun Ti-Meng, Liu Jian-Xin

Abstract:

The patterns of water hyacinth absorbing 4 heavy metals (Pb, Cd, Cr and Hg) in different water areas were studied and the tested water hyacinth and water samples were collected from 8 different water areas in Zhejiang Province through atomic absorption spectrometry and atomic fluorescence spectrometry. The results showed that the contents of heavy metals in water and water hyacinth were high in the seriously polluted water areas. The contents of Pb and Cd in water samples were significantly higher than those of Cr and Hg ( $P<0.05$ ). The contents of heavy metals in roots were generally higher than in those in stem and leaf of water hyacinth. Cd content was significantly lower than Cr in stem and leaf ( $P<0.05$ ) and it was similar in root but the difference was not significant ( $P>0.05$ ). Under the lab conditions, the contents of Pb and Cd in root, stem and leaf showed an increasing trend with the increase of heavy metal contents in water.

Keywords: water hyacinth heavy metal different water areas stem leaf root

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