

研究报告

花生对土壤中铅和镉的吸收分配规律

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摘要:

采用同一土壤条件下大田种植试验,对青岛市8个主栽花生品种植株不同器官中重金属元素Pb和Cd的吸收、富集与分配规律进行了研究。结果表明,供试的8个花生品种籽仁中Pb、Cd含量、富集系数和生物富集量均存在显著性差异,而且8个花生品种籽仁中Cd含量均超过了农业部无公害花生的卫生限量标准。花生植株各器官中Pb和Cd的平均富集系数均为根系>茎叶>果壳>籽仁。花生植株吸收的Pb主要富集分配于茎叶中,其次为果壳、籽仁和根系;Cd主要富集分配于茎叶中,其次为籽仁、根系和果壳。通过筛选和定向培育Pb和Cd含量低的花生品种,可减少花生籽仁中Pb和Cd的含量,从而提高花生产品的安全品质。

关键词: 花生; 铅; 镉; 生物富集量; 分配规律

Absorption and Distribution Rules of Peanut Pb and Cd in Soil

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Abstract:

Eight main cultivated peanut varieties in Qingdao City were used to study the absorption, accumulation and distribution rules of heavy metal Pb and Cd in different organs of peanut plants by using the same soil under field conditions. The results indicated that Pb and Cd contents, enrichment coefficient and bioaccumulation in experimental peanut seeds had significant differences. The Cd contents of these eight peanut varieties in kernel have surpassed the limitation standards made by the Ministry of Agriculture for pollution-free peanuts. The average accumulation factor of Pb and Cd in peanut plant organs are in the following order: root system>stem and leaf>shell>kernel. The Pb content absorbed by peanut plants was mainly enriched in stem and leaf, followed by shell, kernel and root system, while Cd was mainly enriched in the stem and leaf, followed by kernel, root system and shell. Through screening and directive breeding of peanut varieties with low Pb and Cd content, the Pb and Cd content in peanut benevolence will be reduced, thus the secure quality of peanut products will be improved.

Keywords: peanut lead cadmium bioaccumulation capacity distribution rule

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