

### 我国主稻作区稻谷镉和铅含量及其分布特征

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### Contents and Distributions of Cadmium and Lead in Rice From Main Rice Cultivation Areas in China

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**摘要** 收集我国6个主稻作区代表性稻谷样品120份,采用原子吸收光谱法测定Cd、Pb含量,分析各地区各品种稻谷及其加工产物Cd、Pb含量差异,探讨Cd、Pb在稻谷、精米、米糠和米糠油中的分布规律。结果表明,我国主稻作区稻谷、精米、米糠和米糠油中Cd平均含量分别为(0.116±0.057)、(0.089±0.413)、(0.149±0.069)、(0.111±0.043) mg·kg<sup>-1</sup>,且华中稻作区、华南稻作区、华北稻作区、西北稻作区、东北稻作区和西南稻作区稻谷及其加工产物Cd平均含量依次降低;稻谷、精米、米糠和米糠油中Pb平均含量分别为(0.232±0.105)、(0.125±0.061)、(0.301±0.142)和(0.089±0.024) mg·kg<sup>-1</sup>,华中稻作区、华南稻作区、西北稻作区、华北稻作区、东北稻作区和西南稻作区稻谷及其加工产物Pb平均含量依次降低,米糠、稻谷、米糠油和精米中Cd平均含量依次降低,米糠、稻谷、精米和米糠油中Pb平均含量依次降低,稻谷加工为精米,Cd去除率为(9.40±1.46)%,Pb去除率为(36.03±1.15)%,米糠加工为米糠原油,其Cd和Pb残留率分别为(62.43±2.00)%和(31.24±0.63)%。

**关键词:** 稻谷 重金属 米糠油 主稻作区 Cd Pb

**Abstract:** A total of 120 samples of rough rice were collected from 6 main rice cultivation areas in China for analysis of content and distribution of Cd and Pb in the grains using atomic absorption spectrometry. Results show that the average Cd content in rough rice, milled rice, rice bran and rice bran oil was (0.116 ± 0.057), (0.089 ± 0.413), (0.149 ± 0.069), and (0.111 ± 0.043) mg·kg<sup>-1</sup>, respectively, and that the six main rice cultivation areas followed a descending order of Central China, South China, North China, Northwest China, Northeast China, and Southwest China in Cd content in rough rice and its processed products. The results also show that the average Pb content in rough rice, milled rice, rice bran and rice bran oil was (0.232 ± 0.105), (0.125 ± 0.061), (0.301 ± 0.142) and (0.089 ± 0.024) mg·kg<sup>-1</sup>, respectively, and that the six areas followed an order of Central China, South China, Northwest China, North China, Northeast China, and Southwest China in Pb content in rough rice and its processed products. In terms of average Cd content, rice bran came first and was then followed by rough rice, rice bran oil and milled rice in sequence, while in terms of Pb content, rice bran was still the first and was then followed by rough rice, milled rice and rice bran oil. The processing of rough rice into milled rice removed (9.40 ± 1.46)% Cd and (36.03 ± 1.15)% Pb, and the processing of rice bran into rice bran oil left (62.43 ± 2.00)% Cd and (31.24 ± 0.63)% Pb in the latter.

**Keywords:** rice heavy metal rice bran oil main rice yield area Cd Pb

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