

全国中文核心期刊
中国科技核心期刊
中国农业核心期刊
RCCSE中国核心学术期刊
中国科学引文数据库(CSCD)期刊
CAB International 收录期刊
美国《生物学文摘》收录期刊
美国《化学文摘》(CA) 收录期刊

首页 (/) 期刊介绍 编委会 投稿须知 期刊订阅 广告合作 联系我们 返回主页
(/Corp/10.aspx) (/Corp/3600.aspx) (/Corp/5006.aspx) (/Corp/50.aspx) (http://www.haasep.cn/)

«上一篇 (DArticle.aspx?type=view&id=200702024)
下一篇 (DArticle.aspx?type=view&id=200702026)



PDF下载 (pdfdown.aspx?Sid=200702025)

+分享

(http://www.jiathis.com/share?uid=1541069)



微信公众号: 大豆科学

[1]李丽华,张丽静,张金生,等.微波消解-MPT-AES法测定豆制品中的Cu、Fe、Ni、Cd[J].大豆科学,2007,26(02):240-244.
[doi:10.3969/j.issn.1000-9841.2007.02.025]
LI Li-hua,ZHANG Li-jing,ZHANG Jin-sheng,et al.DETERMINATION OF METAL ELEMENTS IN SOYBEAN PRODUCTS BY MICROWAVE DIGESTION-MPT-AES[J].Soybean Science,2007,26(02):240-244.[doi:10.3969/j.issn.1000-9841.2007.02.025]

点击复制

微波消解-MPT-AES法测定豆制品中的Cu、Fe、Ni、Cd

《大豆科学》 [ISSN:1000-9841 /CN:23-1227/S] 卷: 第26卷 期数: 2007年02期 页码: 240-244 栏目:
出版日期: 2007-04-25

Title: DETERMINATION OF METAL ELEMENTS IN SOYBEAN PRODUCTS BY MICROWAVE DIGESTION-MPT-AES

文章编号: 1000-9841(2007)02-0240-05

作者: 李丽华 (KeySearch.aspx?type=Name&Sel=李丽华); 张丽静 (KeySearch.aspx?type=Name&Sel=张丽静); 张金生 (KeySearch.aspx?type=Name&Sel=张金生); 高辉 (KeySearch.aspx?type=Name&Sel=高辉); 李秀萍 (KeySearch.aspx?type=Name&Sel=李秀萍)

辽宁石油化工大学石油化工学院,抚顺 113001

Author(s): LI Li-hua (KeySearch.aspx?type=Name&Sel=LI Li-hua); ZHANG Li-jing (KeySearch.aspx?type=Name&Sel=ZHANG Li-jing); ZHANG Jin-sheng (KeySearch.aspx?type=Name&Sel=ZHANG Jin-sheng); GAO Hui (KeySearch.aspx?type=Name&Sel=GAO Hui); LI Xiu-ping (KeySearch.aspx?type=Name&Sel=LI Xiu-ping)
Institute of Petroleum & Chemical Technology,Liaoning University of Petroleum & Chemical Technology,Fushun 113001

关键词: 微波等离子体炬原子发射光谱法 (KeySearch.aspx?type=Keyword&Sel=微波等离子体炬原子发射光谱法); 微波消解 (KeySearch.aspx?type=Keyword&Sel=微波消解); 豆制品 (KeySearch.aspx?type=Keyword&Sel=豆制品)

Keywords: Microwave Plasma Torch-atomic emission spectrometry (MPT-AES) (KeySearch.aspx?type=Keyword&Sel=Microwave Plasma Torch-atomic emission spectrometry (MPT-AES)); Microwave digestion (KeySearch.aspx?type=Keyword&Sel=Microwave digestion); Soybean products (KeySearch.aspx?type=Keyword&Sel=Soybean products)

分类号: 0657.32

DOI: 10.3969/j.issn.1000-9841.2007.02.025 (http://dx.doi.org/10.3969/j.issn.1000-9841.2007.02.025)

文献标志码: A

摘要: 研究了用微波消解-微波等离子体炬原子发射光谱法(MPT-AES)测定豆制品中的Cu、Fe、Ni、Cd元素的方法。考察了各微量元素的分析谱线波长、载气流量、工作气流量、氧屏蔽气压力和微波前向功率对Cu、Fe、Ni、Cd元素的发射强度的影响,分析了酸浓度及共存离子对其测定的影响,得到了测量不同金属离子的最佳工作条件,进而得出了在最佳条件下测量Cu、Fe、Ni、Cd元素的检出限(分别为8.28 ng mL⁻¹、18.96 ng mL⁻¹、2.77 ng mL⁻¹、3.19 ng mL⁻¹)、精密度(分别为1.46%、3.65%、2.30%、1.62%)、回收率(98.97%~101.29%)等,并通过加标回收试验验证了方法的准确性。

Abstract: The method of determining metal elements in beans by microwave digestion-Microwave Plasma Torch-atomic emission spectrometry (MPT-AES) was studied. Through experimental data, the influence of analytical line, microwave forward power, the flow rate of carrier gas and support gas, oxygen shield pressure to emission strength of metal elements of Copper, Iron, Nickel, Cadmium were chosen and optimized. The effects of acid concentration and coexistent ions on determination of metal ions were analyzed, and the experimental conditions were optimized. Under the optimum conditions, the detection limit (separately are 8.28, 18.96, 2.77 and 3.19 ng mL⁻¹), RSD (separately are 1.46%, 3.65%, 2.30%, 1.62%) and the recovery (98.97%~101.29%) of Copper, Iron, Nickel and Cadmium were obtained, and the accuracy of method was identified by the standard addition recovery.

参考文献/References:

- [1] 刘彦明, 王辉, 刘彦富. 原子吸收光谱法测定大豆及其制品中的微量元素 [J]. 光谱学与光谱分析, 2004, 24(11): 1454-1457.
- [2] 张玉芝. 微量元素与健康研究 [J]. 光谱实验室, 2001, 18(4): 73-74.
- [3] 彭珊珊, 张霖霖, 赵淑华. 微波等离子体炬发射光谱法测定锌的研究 [J]. 光谱实验室, 2002, 19(1): 111-112.
- [4] 王雷, 李丽华, 张金生. MPT-AES法测定合金钢中铜锰钼 [J]. 石油化工高等学校学报, 2005, 18(2): 22-24.
- [5] 张金生, 李丽华, 金钦汉. 微波消解微波等离子体炬原子发射光谱法测定合金钢中的铜、锰、钼 [J]. 分析实验室, 2004, 23(7): 31-33.

相似文献/References:

- [1] 许光, 邓全道, 罗虎, 等. 微波消解-电感耦合等离子体发射光谱法同时测定大豆中14种元素含量 [J]. (darticle.aspx?type=view&id=201104029) 大豆科学, 2011, 30(04): 676. [doi:10.11861/j.issn.1000-9841.2011.04.0676]
XU Guang, DENG Quan-dao, LUO Hu, et al. Inductively Coupled Plasma-atomic Emissions Spectrometric Determination of Fourteen Element in Soybean with Microwave Sample Digestion [J]. Soybean Science, 2011, 30(02): 676. [doi:10.11861/j.issn.1000-9841.2011.04.0676]
- [2] 孟君, 谢银军. 不同预处理方法对黑大豆中微量元素含量测定的影响 [J]. (darticle.aspx?type=view&id=201204027) 大豆科学, 2012, 31(04): 645. [doi:10.3969/j.issn.1000-9841.2012.04.027]
MENG Jun, XIE Yin-jun. Impact on Determination of Trace Element Using Different Pretreatment Methods in Black Soybeans [J]. Soybean Science, 2012, 31(02): 645. [doi:10.3969/j.issn.1000-9841.2012.04.027]

备注/Memo 作者简介: 李丽华(1964—),女,博士,教授,从事微波技术在现代分析测试中的应用研究。

更新日期/Last Update: 2014-10-21

版权所有 © 2012 黑龙江省农科院信息中心
黑ICP备11000329号-2