

论文

中国大豆资源的虚拟土贸易及进口依存度分析

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摘要:

论文把大豆、豆粕和豆油及其它大豆加工制成品等统称为大豆资源,而豆粕和豆油是两大最主要的大豆加工制品。受中国耕地资源限制和国际大豆市场的影响,中国大豆产量徘徊不前;而随着饲料业、畜牧业的发展,以及人们对植物油需求的增加,国内对大豆资源的需求不断增加,大豆及其加工制品的进口量也逐年增加。包括大豆资源在内的农产品及其加工制品,均含有一定的虚拟土。根据生产地生产该产品实际所需要的土地资源数量计算,能反映一个国家(或地区)虚拟土贸易的实际状况;而根据需求地生产该产品所需要的土地资源数量计算,可以反映进口国家(或地区)土地资源节约的真实情况。论文首先从理论上研究了大豆资源虚拟土的量化方法,并计算了不同国家大豆资源的虚拟土含量。然后分析了中国2000—2009年大豆资源国际贸易下隐含的虚拟土贸易、耕地资源节约以及进口依存度。研究结果显示:①中国大豆、豆粕和豆油的虚拟土含量分别为0.60、0.50和1.24 hm²/t,而世界平均含量分别为0.43、0.34和0.89 hm²/t;②中国大豆资源的虚拟土实际净进口量由2000年的413.54×10⁴ hm²增加到2009年的1 729.14×10⁴ hm²,2009年从美国、巴西和阿根廷的进口比重分别为44.5%、37.4%和15.4%;③中国耕地资源的实际节约量由2000年的687×10⁴ hm²增加到2009年的2 851×10⁴ hm²。大豆资源虚拟土贸易的进口依存度由42.0%提高到76.1%,2009年中国对美国、巴西和阿根廷的进口依存度分别为36.1%、28.1%和12.4%。

关键词: 自然资源学 大豆资源 虚拟土 进口依存度

Virtual Land Trades and External Dependences of China' s Soybean Resources

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Abstract:

Soybean, soybean meal, soybean oil and other soybean processed products can be collectively called soybean resources for they are all the products of resources, of which soybean meal and soybean oil are the two main soybean processed products. All agricultural products and their processed products, including soybean resources contain certain amount of virtual land. Due to the constraints of land resources and the impacts of international soybean market, China has limited soybean producing capacity. However, with the rapid development of feed industry and animal husbandry, and the increasing consumption of vegetable oil, China' s demand for soybean resources has increased rapidly in recent years, which caused that the imports of soybean and its processed products increased year by year. To assess the quantity of the virtual land hidden in the trade of the soybean resources and analyze the land resource savings and the external dependences of China' s soybean resources, we calculated the actual amount of land resources needed according to the yields of producers. Firstly we study the scientific methods of how to quantify the virtual land contents of soybean resources theoretically, and calculate the virtual land contents of soybean resources in different countries. Then we analyze the virtual land trades embedded in soybean resources in China from 2000 to 2009 from the producer point of view, and we also analyze the actual land resource savings and external dependences from the perspective of consumption. The results indicate that: 1)The virtual land contents of China' s soybeans, soybean meal and soybean oil are respectively 0.60, 0.50, 1.24 hm²/t, and the global average stands at 0.43, 0.34, 0.89 hm²/t. 2) In the producer point of view, the actual net imports of virtual land increased from 4.14×10⁶ hm² in 2000 to 18.15×10⁶ hm² in 2009, and the proportion of imports from U.S.A, Brazil and Argentina were respectively 44.5%, 37.4% and 15.4% in 2009. 3) From the perspective of consumption, the actual savings of land resources increased from 6.87×10⁶ hm² in 2000 to 28.51×10⁶ hm² in 2009. The external dependence of China' s soybean resources rose from 42.0% in 2000 to 76.1% in 2009. Accordingly, the dependences upon U.S.A, Brazil and Argentina are 36.1%, 28.1% and 12.4%.

Keywords: natural resources soybean resources virtual land external dependences

收稿日期 2011-02-21 修回日期 2011-04-26 网络版发布日期

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基金项目:

国家开发银行资助项目“全球主要农业资源开发利用战略规划”。

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[1] 刘爱民, 于潇萌, 李燕玲. 基于供求平衡表的大豆市场预警分析及模拟[J]. 自然资源学报, 2009, 24(3): 423-430. [2] 刘爱民, 封志明, 阎立珍, 等. 中国大豆生产能力与未来供求平衡研究[J]. 中国农业资源与区划, 2003, 24(4): 36-39. [3] 刘爱民, 封志明, 阎立珍, 等. 基于耕地资源约束的中国大豆生产能力研究[J]. 自然资源学报, 2003, 18(4): 430-436. [4] Daniel Zimmer, Daniel Renault. Virtual Water in food production and global trade review of methodological issues and preliminary results . Proceedings of the expert meeting, Delft, The Netherlands, 2002: 12-13. [5] Hoekstra A Y, Hung P Q. Virtual water trade: A quantification of virtual water flows between nations in relation to international crop trade . Value of Water Research Report Series, Delft, the Netherlands: UNESCO-IHE Institute for Water Education, 2002. [6] Chapagain A K, Hoekstra A Y, Savenije H H G, *et al*. The water footprint of cotton consumption: An assessment of the impact of worldwide consumption of cotton products on the water resources in the cotton producing countries [J]. *Ecological Economics*, 2006, 60: 186-203. [7] 江贤武. 农产品贸易虚拟水对水资源可持续利用的影响分析. 北京: 中国社会科学院研究生院, 2010. [8] 郭卫宁, 孟成才, 韩宇平. 唐山市2007年农产品虚拟水测评与分析[J]. 中国水利水电科学研究院学报, 2010, 8(3): 177-181. [9] 罗贞礼. 基于虚拟土视角下的区域土地资源的可持续利用管理探讨[J]. 国土资源导刊, 2006, 3(2): 17-20. [10] Chapagain A K, Hoekstra A Y. Water footprints of nations . Value of Water Research Report Series. Delft, the Netherlands: UNESCO-IHE, Institute for Water Education, 2004. [11] Chapagain A K, Hoekstra A Y. Virtual water flows between nations in relation to trade in livestock and livestock products . Value of Water Research Report Series, Delft, the Netherlands: UNESCO-IHE, Institute for Water Education, 2003.

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