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Food identification - DNA barcoding method

木材鉴定 DNA条形码方法

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Foreword

This document complies with the provisions of GB/T 1:1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents" Drafting: Please note that some content in this document may be subject to patents: The publisher of this document assumes no responsibility for identifying patents: This document is proposed by the State Forestry and Grassland Administration: This document is under the jurisdiction of the National Timber Standardization Technical Committee (SAC/TC41): This document was drafted by: Institute of Wood Industry, Chinese Academy of Forestry Sciences, Institute of Botany, Chinese Academy of Sciences, Anhui Agricultural University, China Institute of Traditional Chinese Medicine, Chinese Academy of Medical Sciences, Guangxi University, Zhangjiagang Customs of the People's Republic of China, Shandong Provincial Product Quality Inspection Institute, Yunnan Inspection Institute Science and Technology Commission Forensic Appraisal Center, Tianjin University of Technology, China Inspection and Certification Group Tianjin Co., Ltd., Dongyang Qianbaiwan Redwood Furniture Co., Ltd., Beijing Tianyi Lihua Agarwood Technology Research Institute, Shandong Qiaoduotiangong Furniture Co., Ltd., Zhejiang Jingdian Wood Testing Service Co., Ltd., Zhejiang Province Woodcarving mahogany furniture product quality inspection center, Shanxi Rosewood Zhenpin Mahogany Furniture Co., Ltd: The main drafters of this document: Yin Yafang, Jiao Lichao, Xu Chao, Yu Min, Lu Yang, Jiang Xiaomei, Guo Yu, He Tuo, Zhou Shiliang, Wang Mingsheng, Liu Juan, Fu Yunlin, Guo Juan, Zhang Haifeng, Zhang Shujuan, Chen Xudong, Zhang Aidong, Ma Lingyu, Xia Zhaopeng, Lin Chuanyang, Jiang Chao, Huang Lianghua, Liu Shoujia, Zhou Ming, Zhou Fei, Yang Shengkun, Feng Yueqin, Yin Jiangping, Wei Yupei, Liu Jinliang, Zhao Weihao:

The current wood anatomy method generally identifies wood to the "genus" level, but it is difficult to achieve the identification of wood "species" and cannot meet the needs of

international trade: to meet the urgent needs of law enforcement and domestic market supervision and management: The DNA barcoding method provides a technical basis for the "species" level identification of wood: In order to promote legal trade in timber, enhance the performance of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and enhance my country's timber industry This document is specially formulated to improve the supervision level of the industry chain and further promote the healthy and sustainable development of my country's forestry industry: DNA barcoding method for wood identification

1 Scope

China's national DNA barcoding method for food identification. Barcoding identifies a biological species by sequencing a short standardised region of its genome and matching it against a reference library - a different approach from the targeted PCR methods that test whether a particular species is present, because it answers the open question of what this is rather than the closed one of whether it is beef. That makes it the right tool for food fraud, where the substitute is unknown: fish species substitution, which is endemic worldwide, meat adulteration, and the misidentification of herbal and medicinal plant material. Its limitations are equally definite. The reference library must contain the species, which for many commercially important fish and plants it does not; and processing degrades DNA, so a barcode region that works on fresh tissue may not amplify from something cooked, canned or dried.

This document describes the principles, reagents, instruments and equipment, test procedures, judgment and identification of wood using DNA barcoding methods: Fixed report: This document is applicable to the identification of "species" of wood and its products:

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document:

GB/T 6682 Specifications and test methods for water used in analytical laboratories

3 Terms and definitions

The following terms and definitions apply to this document: 3:1 wood wood Derived from the secondary xylem of trees, it is mainly composed of cellulose, hemicellulose and lignin: [Source: GB/T 33023-2016,3:1] 3:2 DNA barcodeDNAbarcode A standard, relatively short,

easily amplified piece of DNA (deoxyribonucleic) in an organism's genome used for species identification: 3:3 species A group of organisms with the same morphological and physiological characteristics and a certain natural distribution area is the basic unit of taxonomy: 3:4 genus A collection of closely related species: 3:

5 Plant samples containing complete tree taxonomy and collection information, mainly xylem, collected from the trunk or branches of trees: 3:6 greenwood Wood that has not been dried after being felled: [Source: LY/T 1788-2008,3:1:17]