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**NATIONAL STANDARD OF THE  
PEOPLE'S REPUBLIC OF CHINA**

**GB/T 28083-2011**

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**Detection and identification of *Ceratocystis fagacearum* (Bretz)  
Hunt**

栎枯萎病菌检疫鉴定方法

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Quarantine;  
Standardization Administration of the PRC**

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### Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard by the National Standardization Technical Committee of Plant Quarantine (SAC/TC271) and focal points. This standard was drafted. Chinese Academy of Inspection and Quarantine. The main drafters of this standard. Yan Jin, Wu Shan goods, Chen Ke, Huang Ying, Chen Yan, Duan Katsuo, often Xueyan. Oak quarantine and identification of *Fusarium oxysporum*

### 1 Scope

China's national method for the quarantine detection and identification of *Ceratocystis fagacearum* (Bretz) Hunt, the fungus that causes oak wilt. It specifies the detection and identification methods for the pathogen in oak, in logs, wood, wood products, wood packaging and nursery stock of oak and of the other hosts. It applies to material from countries and regions where oak wilt occurs. Oak wilt is a vascular disease: the fungus colonises the water-conducting vessels of the tree, the tree responds by plugging them, and the crown dies of drought while standing in wet soil. In the susceptible red oak group death follows within weeks of the first symptom, and a mature tree that was healthy in spring is dead by autumn. It spreads in two ways, and both matter for quarantine. Sap-feeding beetles carry spores from the fungal mats that form under the bark of a dead tree to fresh wounds on healthy ones, which moves the disease between stands. And the fungus grows through root grafts between neighbouring oaks, which is how it kills a whole group rather than a single tree - and why control in an affected area means severing roots with a trench rather than felling the infected tree. China has extensive native oak forests and no oak wilt, and the pathway is imported oak logs and wood. That is what makes a detection method for wood, wood products and packaging worth a national standard, rather than a method for nursery stock alone. The procedure covers the examination of the material, the isolation and culture of the fungus, the morphological identification and the confirmation. Issued on 30 December 2011 and in force since 1 June 2012.

This standard specifies the oak wilt pathogen quarantine and identification methods,

including *Quercus* (*Quercus*L.) And oak wilt pathogen host of other former Wood, wood products, wood packaging and quarantine seedlings. This standard applies to all from oak wilt disease of *Quercus* from countries and regions and oak wilt pathogen other host quarantine Identification.

## 2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document. SN/T 2122 entry and exit quarantine of plants and plant products sampled

## 3 Basic information of oak wilt pathogen

Cupules *Ceratocystis* [*Ceratocystis*fagacearum (Bretz) Hunt] genus Fungi (Fungi), Ascomycota (Ascomycota), Pyrenomycetes (Pyrenomycetes), spherical shell mesh (Sphaeriales), *Ceratocystis* Branch (Ophiostomataceae), *Ceratocystis* (*Ceratocystis* El. Oak wilt pathogen additional information, see Appendix A.

## 4 Principle of the method

Oak wilt pathogen host range, transmission, plant symptoms (see Figure B.4) and pathogenic form (see Figure B.1, Figure B.2, Figure B.3) is Oak quarantine and identification of *Fusarium oxysporum* basis.

## 5 Reagents and standard strain

5.1 Reagents Glucose ( $C_6H_{12}O_6 \cdot H_2O$ ), methyl (phenyl) alanine, potassium dihydrogen phosphate (of  $KH_2PO_4$ ), magnesium sulfate ( $MgSO_4 \cdot 7H_2O$ ), sulfuric acid Fe [ $Fe_2 (SO_4)_3 \cdot xH_2O$  content (as Fe) 21.0 - 23.0%], manganese sulfate ( $MnSO_4$ ), zinc sulfate ( $ZnSO_4 \cdot 7H_2O$ ), Victoria Vitamin H (VitaminH), agar powder. More agents unless otherwise specified, are chemically pure.

5.2 standard strain 1) 1) *Ceratocystis*fagacearum (Bretz) HuntA1 and A2 standard strains from the United States to save China Academy of Animal and Plant Inspection and Quarantine Quarantine Institute. *Ceratocystis*fagacearum (Bretz) HuntA1 and A2 standard strains. \* \* \*