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INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

SN/T 3448-2012

Detection and identification of peach yellows phytoplasma

桃树黄化植原体检疫鉴定方法

(English Translation)

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard is proposed and managed by the National Certification and Accreditation Administration Committee.

This standard was drafted. China Inspection and Quarantine Science Research Institute, People's Republic of China Ningxia Exit Inspection and Quarantine, the People's Republic of China Exit Inspection and Quarantine and the State of Liaoning.

1 Scope

This standard specifies the quarantine and identification of peach yellows phytoplasma.

This standard applies to entry and exit peach seedlings and scion peach yellow plant quarantine and identification of the original body.

Principle 2

2.1 Basic Information

Peach yellows phytoplasma (peachyelowsphytoplasma), soft wall bacteria door (Tendericutes), flexible membrane Proteobacteria (Molicuteria), Mycoplasma mesh (Mycoplasmatales), non-alcoholic original body Division (Acholeplasmataceae), phytoplasma candidate genus (candidatusphytoplas-ma), 16SrI phytoplasma group.

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2.2 Principle of the method

Molecular biology and gene sequence information on biological characteristics like phytoplasma is based on the quarantine and identification methods.

DAPI as a primary screening method phytoplasma; PCR technology with high sensitivity and specificity, RFLP technology is currently on international the main method of identification and classification of the phytoplasma in this standard PCR technique and RFLP technologies identified as yellow peach plant final original member method.

3 Equipment and reagents

PCR instrument, clean bench, sterilizer, ice maker, nucleic acid protein analyzer, high-speed refrigerated centrifuge, small desktop centrifuge, ultra-low temperature Refrigerator, freezer, Vortex, micro-injector, electrophoresis, gel imaging system, fluorescence microscopy, electron microscopy.

DAPI (4 ', 6- diamidino-2-phenylindole), the PCR buffer, MgCl2, dNTP, TaqDNA polymerase, primers and the like.

4.1 Observation of Symptoms

Careful observation Peach seedlings, blades and other symptoms described in Appendix A of A.1.

4.2 DAPI staining

Select young tissues (new leaf stems, shoots, stems and roots phloem tissue), slices, 1μg/mLDAPI solution (4 ', 6-diamidino Indole-2-phenylindole) staining, 460nm excitation conditions, fluorescence microscopy, in phloem sieve portion obvious blue fluorescent signal it indicates a phytoplasma presence. Within the plant due to the uneven distribution of phytoplasma, so each sample required to select different parts of the tender material for testing.

4.3 Electron microscopy

Samples will be collected for preparing ultrathin sections by electron microscopy plant phloem whether there phytoplasma mitochondria. See Method Appendix B.

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