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SYNOPSIS

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Microsatellite based PCR protocol for identification of Basmati rice varieties

a) Scope: This standard prescribes the method using specific nucleic acid analysis for identification of Basmati rice varieties and for subsequent detection of adulteration in Basmati rice, intended to be used by laboratories involved in identification of Basmati rice varieties.

b) Salient features of content: India is a leading exporter of the Basmati rice with annual export of nearly 4 million tonnes with forex earning of Rs. 25,000 crores (US\$ 3.62 billion) currently. In order to ensure the authentic quality of Basmati rice to consumers, DNA protocol for authentication and admixture detection was developed by Centre for DNA Fingerprinting & Diagnostics (CDFD), Hyderabad using microsatellite marker based analytical method. The protocol presented here, describes DNA extraction, PCR, and genotyping procedure for authentication of 30 notified Basmati rice varieties and quantification of admixtures, if any.

c) Types/grades/classes, if any covered in the standard: Comparative molecular profiles for the following 30 basmati and 5 non-basmati rice varieties are presented:

Basmati rice varieties:

i)	Basmati 217
ii)	Basmati 370
iii)	Type-3 (Dehraduni Basmati)
iv)	Ranbir Basmati
v)	Taraori Basmati
vi)	Basmati 386
vii)	Punjab Basmati 1
viii)	Pusa Basmati-1
ix)	Kasturi
x)	Mahi Sugandha
xi)	Haryana Basmati
xii)	Improved Pusa Basmati 1 (Pusa 1460)
xiii)	Pusa Basmati 1121
xiv)	Vallabh Basmati 22
xv)	Pusa Basmati 6 (Pusa 1401)
xvi)	Punjab Basmati 2
xvii)	Basmati CSR 30
xviii)	Malviya Basmati Dhan
xix)	Vallabh Basmati 21
xx)	Pusa Basmati 1509
xxi)	Vallabh Basmati 23
xxii)	Vallabh Basmati 24
xxiii)	Basmati 564
xxiv)	Pusa Basmati 1609
xxv)	Pant Basmati 1
xxvi)	Pant Basmati 2
xxvii)	Punjab Basmati 3
xxviii)	Pusa Basmati 1637



xxix)	Pusa Basmati 1728
xxx)	Pusa Basmati 1718

Non-Basmati rice varieties:

xxxii)	Sharbati
xxxiii)	IR 64
xxxiv)	Jaya
xxxv)	Pusa Sugandh 2
xxxvi)	Pusa Sugandh 3
xxxvii)	Pusa Sugandh 5

d) Disclaimer (to be automatically provided by the program/software)