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GOVERNMENT OF INDIA

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पौधा किस्म और कृषक अधिकार संरक्षण प्राधिकरण
एनएएससी काम्प्लैक्स, डीपीएस मार्ग, निकट टोडापुर गांव, नई दिल्ली–110012

PROTECTION OF PLANT VARIETIES & FARMERS' RIGHTS AUTHORITY
NASC COMPLEX, DPS MARG, Opp. Todapur Village, New Delhi-110012

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PROTECTION OF PLANT VARIETIES & FARMERS' RIGHTS AUTHORITY
NASC Complex, DPS Marg, Opp. Todapur Village, New Delhi – 110 012

'भारतीय पौधा किस्म जरनल' पौधा किस्म और कृषक अधिकार संरक्षण प्राधिकरण (पौ.कि.कृ.अ.सं.प्रा.) का आधिकारिक जरनल है। पीपीवी और एफआर अधिनियम, 2001 तथा पीपीवी और एफआर नियमावली, 2003 के नियम 2 (जी) के अंतर्गत अध्यक्ष, पीपीवी और एफआरए, एनएएससी काम्प्लैक्स (द्वितीय तल), डीपीएस मार्ग, निकट टोडापुर गांव, नई दिल्ली–110012 की ओर से प्राधिकरण के रजिस्ट्रार द्वारा प्रकाशित किया जा रहा है।

Plant Variety Journal of India is the Official Journal of the Protection of Plant Varieties and Farmers' Rights Authority (PPV & FRA) published by the Registrar on behalf of the Chairperson, PPV & FRA, NASC Complex (IInd Floor), DPS Marg, Opp. Todapur Village, New Delhi-110012 under the PPV & FR Act, 2001 and Rule 2 (g) of the PPV & FR Rules, 2003.

PUBLIC NOTICE

The Ld. Registrar vide order dated 11.02.2011 has passed an order extending the period of filing applications for registration of extant variety about which there is common knowledge for a period of three years from 30.06.2009 and the period for filing applications for registration of farmers' variety has been extended for a period of five years from 30.06.2009 with respect to twelve crop species notified vide S.O. 1884 (E) dated 01.11.2006 and six crop species notified vide S.O.2229(E) dated 31.12.2007. The said order is published herewith.

BEFORE THE PLANT VARIETIES REGISTRY
AT NEW DELHI

ORDER

The issue that has been considered *suo motu* in this order is regarding the time limit for registration of extant varieties whether from the date of notification of genera and species under section 29(2) of PPV&FR Act, 2001 or from the date of notification of Criteria of Distinctiveness, Uniformity and Stability for extant varieties in the Official Gazette by the Authority in the form of regulations under section 15(2) read with section 95(2)(c) of PPV&FR Act, 2001.This issues more particularly with respect to twelve crop species notified vide S.O. 1884 (E) dated 01.11.2006 and four species of cotton and two species of Jute notified vide S.O.2229(E) dated 31.12.2007. In both these cases the Criteria of Distinctiveness, Uniformity and Stability for registration of extant varieties about which there is common knowledge and farmers' variety which forms part of extant variety was notified subsequently in the Official Gazette on 29.6.2009 which came into force on 30.6.2009.

This issue is taken suo motu for the reason that in the previous instances the Registry has returned several applications for registration of extant varieties about which there is common knowledge on the ground that the time limit for filing application for registration of extant varieties of twelve crop species notified vide S.O.1884 (E) dated 1.11.2006 and six crop species notified vide S.O.2229(E) dated 31.12.2007 have expired after a period of three years from 1.11.2006 and 31.12.2007 (the dates of notification of twelve and six crop species respectively).

The central government under section 29 (2) notified (vide S.O. 1884 (E) dated 01.11.2006) twelve crop species for registration and vide S.O.2229(E) dated 31.12.2007 notified six crop species for registration under section 29(2) of PPV & FR Act, 2001. The said notifications apply only for new varieties as is clear from section 29 (2). Section 29 (2) is as follows "The Central Government shall, by notification in the Official Gazette, specify the genera or species for the purposes of registration of varieties other than **extant varieties and farmers'varieties under this Act**".

This clearly proves that notification under section 29(2) of PPV&FR Act, 2001 is applicable only for new varieties.

The registration of extant varieties is dealt in Section 15(2) of the Act which is as follows:-

"an extant variety shall be registered under this Act within a specified period if it conforms to such criteria of distinctiveness, uniformity and stability as shall be specified under the regulations".

Section 15 provides two things for registration of extant varieties namely one is period within which it must be registered and other is that it must conform to the criteria for Distinctiveness, Uniformity and Stability in as shall be specified by the Authority in the Regulations.

The provisions regarding the period within which the extant varieties must be registered is examined first. The period within which extant variety has to be registered has been prescribed in Rule 24 of PPV&FR Rules, 2003. The said Rule 24 has been framed by the Central Government under section 15. Rule 24 provides that extant variety other than farmers' variety shall be registered within a period of three years from the date of notification of varieties under section 29(2) of the Act and farmers' varieties shall be registered within a period of five years from the date of notification of varieties under section 29(2) of the Act.

Rule 24 of PPV&FR Rules, 2003 has been framed under section 15(2) which is as follows:-

"**Rule 24. Registration of extant plant varieties under sub – section (2) of Section 15.-**

(1) The Registrar shall register every farmers' variety which is an extant variety within five years from the date of its notification under the Act, with respect to the genera and species eligible for registration **subject to** conformity to the criteria of distinctiveness, uniformity and stability as laid down under the regulations.
(2) The Registrar shall register other extant variety within three years from the date of it notification under the Act with respect to the genera and species eligible for registration

subject to conformity to the criteria of distinctiveness, uniformity and stability as laid down under the regulations:

Provided that the Registrar may, for reasons to be recorded in writing, register a farmers' variety and other extant variety after the expiry of the said period of five years or three years as the case may be."

A combined reading of Section 29 (2) and Rule 24 makes it clear that a notification under section 29 (2) is applicable only for new variety and not for farmers' and extant varieties. In spite of it, Rule 24 provides that extant variety and farmers' variety must be registered within three years and five years respectively from the date of notification under the Act which means a notification under Section 29 (2). Section 29 (2) attracts new varieties and repels extant variety and farmers' varieties but Rule 24 computes the time limit for registration of extant varieties from the date of notification under 29 (2).

The date of specification of criteria of distinctiveness, uniformity and stability in the Regulations has also to be examined. The criteria of distinctiveness, uniformity and stability for extant variety about which there is common knowledge and farmers' variety was notified by the Authority in the Official Gazette namely the Protection of Plant Varieties and Farmers' Rights (Criteria for Distinctiveness, Uniformity and Stability for Registration) Regulations, 2009 (vide G.S.R. 452 (E), dated 29th June, 2009, published in the Gazette of India, Extra., Pt. II, Sec. 3 (i), dated 30th June, 2009 and came into force on 30th June, 2009).

In the case on hand the notification of crops species for registration under section 29(2) was made on 1.11.2006 and 31.12.2007 respectively whereas the criteria for Distinctiveness, Uniformity and Stability for extant variety about which there is common knowledge and farmers varieties came into force on 30.6.2009. I am of the view that in the instant case the period of registration of extant varieties and farmers varieties has to be computed from three years and five years respectively not from the date of notification under section 29(2) of the Act but from the date of notification of criteria for Distinctiveness, Uniformity and Stability in the Regulations.

The criteria of distinctiveness, uniformity and stability are a touch stone and bench mark to determine the DUS character. The metes and bounds of plant breeders right (which is an intellectual property right) is determined only through criteria of distinctiveness, uniformity and

stability. In other words the parameters of an intellectual property right under PPV&FR Act, 2001 is determined by criteria of distinctiveness, uniformity and stability. It would not be prudent and logical for a person to apply for registration of an extant variety without knowing the criteria of distinctiveness, uniformity and stability. Further computing the time limit under Rule 24 for registration of extant variety without reference to criteria of distinctiveness, uniformity and stability would be violative of Section 15 and Rule 24. The use of the words "subject to" in Rule 24 makes it clear that notification of criteria for Distinctiveness, Uniformity and stability in the Regulations and notification for registration of genera and species under section 29(2) both must be in existence at a particular point of time for computing the period of time limit of three years and five years from the date of notification under section 29(2) of the Act. If on the date of notification under section 29(2) the criteria of Distinctiveness, Uniformity and stability were not notified in the Official Gazette then in that case the period prescribed in Rule 24 must be computed from date of notification of Criteria of Distinctiveness, Uniformity and stability in the Regulations though it is subsequent. In South India (P) Ltd., -Vs- Secretary, Board of Revenue, Trivandrum, AIR 1964 SC 207, 215 it has been held by Hon'ble Supreme Court that the expression 'subject to' conveys the idea of provision yielding place to another provision or other provision to which it is made subject. The registration of extant variety under Section 15 and Rule 24 is made subject to conformity to Criteria of Distinctiveness, Uniformity and stability specified in the Regulations. Accordingly, in this case the period prescribed for registration of extant varieties must be computed from date of notification of Criteria of Distinctiveness, Uniformity and stability in the Regulations.

Accordingly I hereby direct the registry that the period of registration of extant varieties about which there is common knowledge and farmers' varieties of twelve crops species notified on 01.11.2006 and six crop species notified on 31.12.2007 have to be computed from 30.06.2009 (Date of notification of Criteria of Distinctiveness, Uniformity and stability in the Regulations). Consequently, the time limit for filing applications for registration of extant varieties (Common knowledge variety and farmers' variety) in case of twelve crop species notified on 1.11.2006 and six crop species notified on 31.12.2007 is extended for a period of three years from 30.6.2009 and the time limit for filing applications for registration of farmers' varieties in case of twelve crop species notified on 1.11.2006 and six crop species notified on 31.12.2007 is extended for a period of five years from 30.6.2009. It is also clarified that other conditions laid down under the

law must be satisfied before registering the extant varieties (common knowledge and farmers' varieties).

Given under my hand and seal on this the 11th day of February, 2011.

Sd/-
(MANOJ SRIVASTAVA)
REGISTRAR

//TRUE COPY//

OFFICIAL NOTICE

Sub : Notice is given under Section 19 of the Protection of Plant Varieties and Farmers' Right Act, 2001 read with rule 29 (10) of PPV&FR Rules, 2003 and Regulation 11 of PPV&FR Regulations, 2006

It is hereby clarified that applicants shall submit along with the seed, a certified data on germination test made not more than one month period to the date of submission of seed sample. The data on germination test may be from notified/accredited Seed testing laboratories, laboratories of SAU's and public institute and also from private laboratories.

If the certified data in germinating test report is found to be wrong the Seeds sample shall be rejected summarily.

The other condition given in PVJ volume 2 no -1 & 2 dated: 01.02.2008 remains unchanged.

OFFICIAL NOTICE

Sub: Notice is given under Rule 29-1(a) of the Protection of Plant Varieties and Farmers' Rights Rules, 2003

It is hereby informed that PPV&FR Authority shall charge the indicated fee for conducting DUS test on each notified variety of the following crop species under PPV&FR Rule 29-1(a), 2003. The DUS testing fee shall be paid as a crossed demand draft drawn in favour of 'Registrar, Protection of Plant Varieties and Farmers' Rights Authority payable at Delhi.'

S. No.	Crop Species	DUS test fee (Rs.)
1.	Black Pepper, Small Cardamom, Ginger and Turmeric	45,000/- per variety
2.	Potato	48,000/- per variety
3.	Tomato, Brinjal, Okra, Cabbage, Cauliflower, Onion and Garlic	40,000/- per variety
4.	Rose and Chrysanthemum	45,000/- per variety
5.	Mango	30,000/- per variety

PUBLIC NOTICE

Sub: Notice is given under Rule 29 (8 and 9) of the PPV & FR Rules, 2003.

As a requirement under Rule 29 (8 and 9) of the PPV & FR Rules, 2003, it is hereby informed that the specific DUS test guidelines for Damask Rose (*Rosa damascena* Mill), Periwinkle (*Catharanthus roseus* L; G Don), Brahmi (*Bacopa monnieri* L; Pennell) and Coconut (*Cocos nucifera* L.) crop species is hereby published in 'Plant Variety Journal of India', Vol. 05, No. 02 & 03, March 01, 2011. Interested parties may read these guidelines and act accordingly.

Damask Rose (*Rosa damascena* Mill)

I. Subject

These test guidelines shall apply to all varieties of Damask Rose (*Rosa damascena* Mill).

II. Planting material required

1. The Protection of Plant Varieties and Farmers' Rights Authority (PPV&FRA) shall decide when, where and in what quantity and quality of the planting material are required for testing a variety denomination applied for registration under the Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001. Applicants submitting such planting material from a country other than India shall make sure that all customs and quarantine requirements stipulated under relevant national legislations and regulations are complied with. The minimum quantity of planting material to be supplied by applicant in one or several samples shall be 100 cuttings. The cuttings shall be supplied packed in cotton cloth bag with proper labeling.
2. The planting material supplied should be visibly healthy and should not be affected by any pest or disease.
3. The planting material shall not have been subjected to any chemical or bio-physical treatment unless the PPV&FR Authority allows or requests such treatment. If it has been treated, full details of the treatment must be given.

III. Conduct of tests

1. The minimum duration of DUS tests shall normally be during at least two independent similar growing seasons year. Observations shall be recorded at least one year after planting.
2. The tests shall normally be conducted at two test locations. If any essential characteristics of the candidate variety is not expressed for visual observation at these locations, the variety shall be considered for further examination at another appropriate test site or under special test protocol on expressed request of the applicant.
3. The field tests shall be carried out under conditions favouring normal growth and expression of all test characteristics. The size of the plots shall be such that plants or parts of plants could be removed for observation and measurement without prejudicing the

other observations on the standing plants until the end of the growing period. Each test plot shall include at least a 16 plants. Separate plots for observation and for measurement can only be used if they have been subjected to similar environmental conditions. All the replications shall be sharing similar environmental conditions of the test location.

4. Test plot design:

Bed size:	$16m^2$ (4m × 4m)
Number of rows:	5
Row to row distance:	75cm
Plant to plant distance:	75cm
Number of replications:	3
Number of plants/replication:	25

5. Additional test protocols for special tests shall be established by the PPV&FR Authority.

IV. Methods and observations

1. The characteristics described in the Table of characteristics (see section VII) shall be used for the testing of varieties for their DUS.
2. For the assessment of Distinctiveness and Stability, observations shall be made on 30 plants or parts of 30 plants, which shall be equally divided among three replications (10 plants per replication).
3. For the assessment of Uniformity, a population standard of 5% with an acceptance probability of at least 95% shall be applied.
4. For the assessment of all colour characteristics, the latest Royal Horticultural Society (RHS) colour chart shall be used.
5. Unless otherwise indicated, all observations on the plant, the leaf and the stem shall be made before the end of the growing phase and during the full expression time. Unless otherwise indicated, all observations on the shoot shall be made on the main shoot (tallest).

V. Grouping of varieties

1. The candidate varieties for DUS testing shall be divided into groups to facilitate the assessment of Distinctiveness. Characteristics which are known from experience not to

vary or vary only slightly within a variety and which in their various states of expression are fairly evenly distributed across all varieties in the collection are suitable for grouping purposes.

2. The following characteristics shall be used for grouping varieties:

    a) Plant: Growth habit (characteristic 1)

    b) Leaflet: shape (characteristic 6)

    c) Oil: content (%) (characteristic13)

VI. Characteristics and symbols

1. To assess Distinctiveness, Uniformity and Stability, the characteristics and their states as given in the Table of characteristics (section VII) shall be used.
2. Notes (1 to 9) shall be used to describe the state of each characteristic for the purpose of digital data processing.
3. Legend:

(*) Characteristics that shall be observed during every growing season on all varieties and shall always be included in the description of the variety, except when the state of expression of any of these characters is rendered impossible by a preceding phenological characteristic or by the environmental conditions of the testing region. Under such exceptional situation, adequate explanation shall be provided.

(+) See explanation of the characteristic in section VIII. It is to be noted that for certain characteristics the plant parts on which observations to be taken are given in the explanation or figure(s) for clarity and not for the colour variation.

4. The optimum stage of plant growth for assessment of each characteristic is given in the sixth column of the table of characteristics.
5. Types of assessment of characteristics indicated in column seven of table of characteristics is as follows:

MG: Single measurement of a group of plants or parts of plants

MS: Measurement of number of individual plants or parts of plants

VG: Visual recording of single observation of a group of plants or parts of plants

VS: Visual recording by observation of individual plant or parts of plants

VII. Table of Characteristics

Sl. No.	Characteristic	State	Note	Example Varieties	Stage of observation	Type of assessment
1.	**2.**	**3.**	**4**	**5.**	**6.**	**7.**
1. (+)	Plant: Growth habit	Erect Spreading	1 5	Ranisahiba, Noorjahan Puskar gulab	During growing phase (90 days after planting)	VG
2.	Plant: Height (cm)	Short (< 70cm) Medium (70-100cm) Tall (>100cm)	3 5 7	- Noorjahan, Aligarh, Kannauj Ranisahiba	At the end of the growing phase during second year (Before pruning)	MS
3.	Stem: anthocyanin Pigmentation on young shoots	Absent Present	1 9	Ranisahiba Noorjahan	During growing phase (80-90 days after planting)	VG
4.	Stem: Number of primary branches	Low (<5) Medium (6-10) High (>10)	3 5 7	- Noorjahan, Aligarh, Kanouj Ranisahiba	At the end of the growing phase during second year (110 days after pruning)	MG
5.	Stem: Internode length (cm)	Short (<1.0cm) Long (>1.0)	3 7	Noorjahan Aligarh, Kanouj, Ranisahiba	At the end of the growing phase during second year (110 days after pruning)	MG
6. (*) (+)	Leaflet: shape	Oblong Elliptic	3 5	Kanouj Ranisahiba, Noorjahan	Full expansion of leaves achieved (80-90 days after planting)	VG
7.	Leaflet: length of blade(cm)	Short (<6.0cm) Long (>6.0)	5 7	Ranisahiba, Aligarh Noorjahan	Full expansion of leaves achieved (80-90 days after planting)	MG
8.	Leaflet : Width of blade (cm)	Narrow (≤3.0cm) Broad	3 7	Ranisahiba, Aligarh, Kanouj Noorjahan	Full expansion of leaves achieved (80-90 days after planting)	MG

		(>3.0cm)				
9. (+)	Leaflet: apex shape	Acute Acuminate Obtuse	1 3 5	Noorjahan Ranisahiba, Aligarh	Full expansion of leaves achieved (80-90 days after planting)	VG
10. (+)	Leaflet: Shape of base of blade of terminal leaflet	Acute Obtuse Rounded Cordate	1 3 5 7	- Noorjahan Kanouj -	Full expansion of leaves achieved (80-90 days after planting)	VG
11. (+)	Leaflet: margin	Entire Dentate Serrated	- 3 5	 Ranisahiba Aligarh	Full expansion of leaves achieved (80-90 days after planting)	VG
12.	Flower: Colour	Pink Reddish Pink	3 5	Noorjahan, Aligarh Ranisahiba	At the time of full flowering (100-110 days after pruning)	VG
13.	Oil: content (%)	Low (<0.01) Medium (0.01 – 0.04) High (>0.04)	1 3 5	- Noorjahan, Aligarh, Kannouj Ranisahiba	After extraction of oil (100-110 days after pruning)	MG
14.	Oil: Geraniol content in oil (%)	Low (<10.0) Medium (10.0-20.0%) High (>20.0)	1 3 5	- Ranisahiba Noorjahan, Kannouj	After extraction of oil (100-110 days after pruning)	MG
15.	Oil: N-citronellol content in oil (%)	Low (<10.0) Medium (10.0-20.0%) High	1 3 5	Kannouj Noorjahan Ranisahiba	After extraction of oil (100-110 days after pruning)	MG

		(>20.0)				
16.	Oil: Linolool content in oil (%)	Low (<1.0) Medium (1.0-2.0%) High (>2.0)	1 3 5	Noorjahan Kannouj, Ranisahiba -	After extraction of oil (100-110 days after pruning)	MG

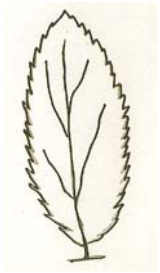
VIII. Explanations for the Table of Characteristics

Characteristic 1. Plant: Growth habit

Erect

Spreading

Characteristic 6. Leaflet: Shape

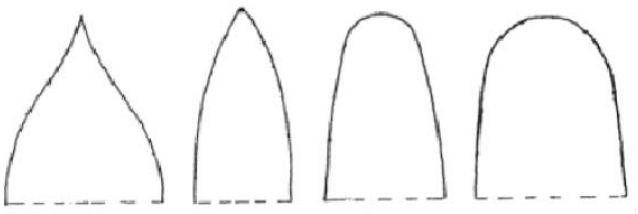


Linear

Oblong

Elliptic

Characteristic 9. Leaflet: apex shape

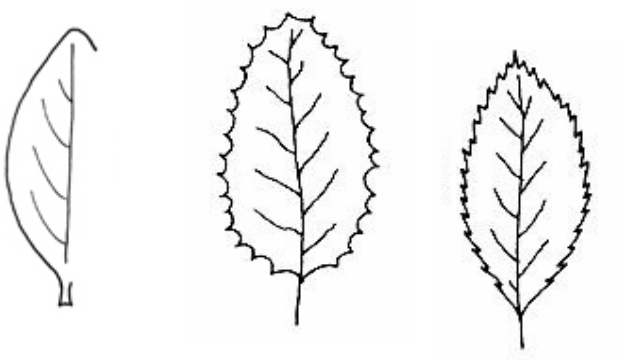


Acumminate **Acute** **Obtuse** **Rounded**

Characteristic 10. Leaflet: Shape of base of blade of terminal leaflet

Acute **Obtuse** **Rounded** **Cordate**

Characteristic 11. Leaflet: Margin



Entire **Dentate** **Serrated**

Characteristics 14-16. Oil composition

Essential oil composition shall be measured by Gas Liquid Chromatography using standard procedures. (Singh AK, Raina VK, Naqvi AA, Patra NK, Kumar B, Ram P and Khanuja SPS, 2005. Flavour Fragr. J. 20: 302-305).

IX. Literature

1. http://www.upov.int
2. http://www.plantauthority.gov.in

X. DUS testing centers

Nodal center	Other Center
Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow-226015	CIMAP Resource Center (CRC), Purara, Uttarakhand

Periwinkle (*Catharanthus roseus* L; G Don)

I. Subject

These test guidelines shall apply to all varieties of periwinkle (*Catharanthus roseus* L; G Don).

II. Seed material required

1. The Protection of Plant Varieties and Farmers' Rights Authority (PPV&FRA) shall decide when, where and in what quantity and quality of the planting material are required for testing a variety denomination applied for registration under the Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001. Applicants submitting such seed material from a country other than India shall make sure that all customs and quarantine requirements stipulated under relevant national legislations and regulations are complied with. The minimum quantity of seed material to be supplied by applicant shall be 10 grams of the candidate variety. The seed material shall be packed, sealed and properly labeled with details in ten equal weighing packets and submitted in one lot.
2. The seed submitted shall have at least 85 % germination, 98 % physiological purity, genetically pure, uniformity, sanitary and phytosanitary standards. In addition, the moisture content of the seed shall not exceed 8 % to meet the safe storage requirement. The applicant shall also submit along with the seed, a certified data on germination test made not more than one month prior to the date of submission.
3. The planting shall not have been subjected to any chemical or bio-physical treatment unless the PPV&FR Authority allows or requests such treatment. If it has been treated, full details of the treatment must be given.

III. Conduct of tests

1. The minimum duration of DUS tests shall normally be at least at two independent similar growing seasons.
2. The tests shall normally be conducted at two test locations. If any essential characteristics of the candidate variety is not expressed for visual observation at these locations, the variety shall be considered for further examination at another appropriate test site or under special test protocol on expressed request of the applicant.

3. The field tests shall be carried out under conditions favouring normal growth and expression of all test characteristics. The size of the plots shall be such that plants or parts of plants could be removed for observation and measurement without prejudicing the other observations on the standing plants until the end of the growing period. Each test plot shall include at least a total of 120 plants in the plot size and planting space specified below across three replications. Separate plots for observation and for measurement can only be used if they have been subjected to similar environmental conditions. All the replications shall be sharing similar environmental conditions of the test location.
4. Test plot design:

Bed size:	9 m^2 (3m × 3 m)
Number of rows:	8
Row length:	3.0 meters
Row to row distance:	40 cm
Plant to plant distance:	20 cm
Number of replications:	3
Expected number of plants:	120

5. Observations should not be recorded on plants in border rows.
6. Additional tests protocols for special tests shall be established by the PPV&FR, Authority.

IV. Methods and observations

1. The characteristics described in the Table of characteristics (see section VII) shall be used for the testing of varieties for their DUS.
2. For the assessment of Distinctiveness and Stability, observations shall be made on 30 plants or parts of 30 plants, which shall be equally divided among three replications (10 plants per replication).
3. For the assessment of Uniformity, a population standard of 5% with an acceptance probability of at least 95% shall be applied.
4. For the assessment of all colour characteristics, the latest Royal Horticultural Society (RHS) colour chart shall be used.
5. Unless otherwise indicated, all observations on the plant, leaf and stem shall be made before the end of the growing phase and during the full expression time.

V. Grouping of varieties

1. The candidate varieties for DUS testing shall be divided into groups to facilitate the assessment of Distinctiveness. Characteristics which are known from experience not to vary or vary only slightly within a variety and which in their various states of expression are fairly evenly distributed across all varieties in the collection are suitable for grouping purposes.
2. The following characteristics shall be used for grouping periwinkle varieties:
   a) Plant: growth habit (characteristic 1)
   b) Plant: height (characteristic 2)
   c) Stem: number of primary branches (Characteristic 5)
   d) Leaf: shape (Characteristic 8)
   e) Flower: colour (Characteristic 13)

VI. Characteristics and symbols

1. To assess Distinctiveness, Uniformity and Stability, the characteristics and their states as given in the Table of characteristics (section VII) shall be used.
2. Notes (1 to 9) shall be used to describe the state of each characteristic for the purpose of digital data processing.
3. Legend:

(*) Characteristics that shall be observed during every growing season on all varieties and shall always be included in the description of the variety, except when the state of expression of any of these characters is rendered impossible by a preceding phenological characteristic or by the environmental conditions of the testing region. Under such exceptional situation, adequate explanation shall be provided.

(+) See explanation of the characteristic in section VIII. It is to be noted that for certain characteristics the plant parts on which observations to be taken are given in the explanation or figure(s) for clarity and not for the colour variation.

4. The optimum stage of plant growth for assessment of each characteristic is given in the sixth column of the table of characteristics.
5. Types of assessment of characteristics indicated in column seven of table of characteristics is as follows:

MG: Measurement by a single observation of a group of plants or parts of plants

MS: Measurement of a number of individual plants or parts of plants

VG: Visual assessment by a single observation of a group of plants or part of plants

VS: Visual assessment by observations of individual plants or parts of plants

VII. Table of Characteristics

Sl. No	Characteristics	States	Notes	Example Varieties	Stage of observation	Type of assess-ment
1.	2.	3.		5.	6.	7.
1. (+) *	Plant: Growth habit	Erect Semi-erect Spreading	1 3 5	Nirmal, Prabal Dhawal -	At full plant growth stage (60 days after sowing)	VG
2. (+)	Plant: Height (cm)	Short (< 50cm) Medium (50-80cm) Tall (>80cm)	3 5 7	NEU 6-15 Nirmal, Dhawal, Prabal EMS 18-12	At the end of the growing phase (120-150 days after sowing)	MS
3.	Plant: Width (cm)	Narrow (< 40cm) Medium (40-80cm) Broad (>80cm)	3 5 7	NEU6-15, EMS 18-12 Nirmal, Dhawal -	At the end of the growing phase (120-150 days after sowing)	MS
4.	Stem: Anthocyanin pigmentation	Absent Present	1 9	Nirmal, Dhawal PS-1	At the end of the growing phase (60 days after sowing)	VG
5. *	Stem: Number of primary branches	Low (<10) Medium (10-20) High (>10)	3 5 7	NEU 6-15 Nirmal, Prabal Dhawal	At the end of the growing phase (120-150 days after sowing)	MS
6.	Stem: Number of secondary branches	Low (<30) Medium (30-40) High (>40)	3 5 7	NEU 6-15 Nirmal, Prabal Dhawal	At the end of the growing phase (120-150 days after sowing)	MS
7.	Stem: Internode length	Short (<1.0cm) Medium (1.0-2.0cm) Long (>2.0)	3 5 7	NEU 6-15 Nirmal, Dhawal EMS 18-12	At the end of the growing phase (120-150 days after sowing)	MS

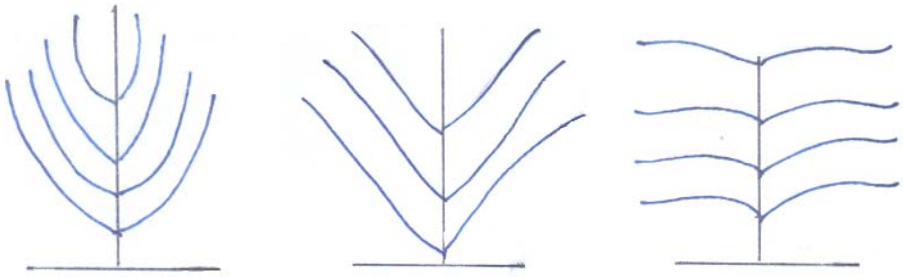
8. (*) (+)	Leaf: Shape	Linear Oblong Elliptic	1 3 5	- Nirmal, Dhawal PS-1	Full expansion of leaves achieved (120-150 days after sowing)	VG
9.	Leaf: Blade length(cm)	Short (<5.0cm) Medium (5.0-6.0cm) Long (>6.0)	3 5 7	NEU6-15 Nirmal, Dhawal -	Full expansion of leaves achieved (120-150 days after sowing)	MS
10.	Leaf: Blade width (cm)	Narrow (<2.0cm) Medium (2.0-3.0cm) Broad (>3.0cm)	3 5 7	- Nirmal, Dhawal NEU 6-15	Full expansion of leaves achieved (120-150 days after sowing)	MS
11. (+)	Leaf: Lemina margin	Entire Wavy	3 5	Nirmal, Prabal Dhawal	Full expansion of leaves achieved (120-150 days after sowing)	VG
12.	Flower: Diameter (cm)	Small (<3cm) Medium (3-4cm) Large (>4cm)	1 3 5	- NEU 6-15 Nirmal, Dhawal	At the time of full flowering (70-80 days after sowing)	MG
13.	Flower: Colour of petals	White Pink Purple	1 3 5	Nirmal, Dhawal, EMS 18-12, NEU6-15 PS-1	At the time of full flowering (70-80 days after sowing)	VG
14.	Flower: Colour of eye zone	Cream Pink Red	1 3 5	Nirmal, Dhawal, NEU 6-15 - Prabal	At the time of full flowering (70-80 days after sowing)	VG
15.	Flower: length of tube	Short (<2cm) Long (>2cm)	3 5	NEU6-15 Nirmal, Dhawal, EMS 18-12, PS-1	At the time of full flowering (70-80 days after sowing)	MG
16.	Siliqua: length (cm)	Short (<2cm) Long (>2cm)	3 5	NEU 6-15 Nirmal, Dhawal, EMS 18-12, PS-1	At the time of maturity (120-150 days after sowing)	MG
17.	Siliqua: No. of seeds per siliqua	Low (<20) High (>20)	3 5	NEU6-15 Nirmal, Dhawal, EMS 18-12, PS-1	At the time of maturity (120-150 days after sowing)	MS
18.	Seed: Weight (1000	Low (<1g)	3	Nirmal, Dhawal,	At the time of	MS

	seed weight)	High (>1g)	5	EMS 18-12, PS-1 NEU 6-15	harvesting (120-150 days after sowing)	
19.	Root: Dry weight	Low (<5g) High (> 5g)	3 5	NEU 6-15 Dhawal, Prabal, Nirmal	After shade drying of the roots (120-150 days after sowing)	MG
20.	Root: Length of main root	Low(<10cm) High (> 10cm)	3 5	NEU 6-15 Dhawal, Prabal, Nirmal	After digging of fresh roots (120-150 days after sowing)	MG
Special characters						
21. (+)	Alkaloids: Total leaf alkaloid content in shade dried material	Low (<0.8%) High (>0.8%)	1 5	PS-1 Nirmal, EMS 18-12, NEU6-15, Dhawal	After shade drying of the leaves after harvesting (120-150 days after sowing)	MG
22. (+)	Alkaloids: Total root alkaloid content in shade dried material	Low (<1.5%) Medium (1.5-2.0%) High (>2.0%)	3 5 5	- Nirmal, Dhawal, PS-1 NEU6-15, EMS 18-12	After shade drying of the roots after harvesting (120-150 days after sowing)	MG

VIII. Explanations for the Table of Characteristics

Characteristic 1. Plant: Growth habit

Plant growth habit shall be recorded at the end of the growing phase

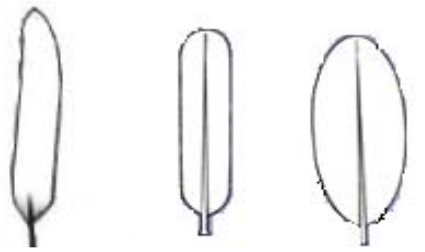


Erect **Semi-erect** **Spreading**

Characteristic 2. Plant: Height

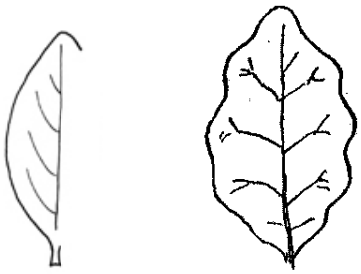
It shall be measured from the soil level to the tip of the leaf of the main shoot.

Characterstic 8. Leaf: Shape



Linear Oblong Elliptic

Characterstic 11. Leaf: Lamina



Entire Wavy

Characterstics 21 and 22. Alkaloids: Total leaf/root alkaloid content in shade dried material

1. The total leaf and root alkaloid contents in shade dried materials shall be measured by HPLC method using standard procedures. (Gupta MM, Gupta DV, Tripathi AK, Pandey R, Verma, RK, Singh S, Shasany AK and Khanuja SPS, 2005. Simultaneous determination of vincristine, vinblastine, catharanthine and vindoline in leaves of *Catharanthus roseus* by high performance liquid chromatography. J. Chromatographic Sci. 43:450-453).

IX. Literature

1. Singh BM, Mahajan RK, Srivastav and Pareek SK. (2003). Minimal Descriptors of Agri-Horticultural Crops, Part IV; Medicinal and Aromatic Plants. National Bureau of Plant Genetic Resources, Pusa Campus, New Delhi (INDIA).
2. http://www.upov.int

X. DUS testing centers

Nodal Center	Other Center
Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow-226015	CIMAP Resource Center (CRC), Bangalore, Karnataka

Brahmi (*Bacopa monnieri* L; Pennell)

I. Subject

These test guidelines shall apply to all varieties of Brahmi (*Bacopa monnieri* L; Pennell)

II. Planting material required

1. The Protection of Plant Varieties and Farmers' Rights Authority (PPV&FRA) shall decide when, where and in what quantity and quality of the planting material are required for testing a variety denomination applied for registration under the Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001. Applicants submitting such planting material from a country other than India shall make sure that all customs and quarantine requirements stipulated under relevant national legislations and regulations are complied with. The minimum quantity of planting material to be supplied by applicant in one or several samples shall be 500 cuttings. (clean and wholesome vegetative parts 10-15 cm long). The cuttings shall be packed in cotton cloth bag with proper labeling.
2. The planting material supplied should be visibly healthy, not lacking in vigour or affected by any pest or disease.
3. The planting shall not have been subjected to any chemical or bio-physical treatment unless the PPV&FR Authority allows or requests such treatment. If it has been treated, full details of the treatment must be given.

III. Conduct of tests

1. The minimum duration of DUS tests shall normally be at least at two independent similar growing seasons with two consecutive plantings, the second being a replanting with same plant material
2. The tests shall normally be conducted at two test locations. If any essential characteristics of the candidate variety is not expressed for visual observation at these locations, the variety shall be considered for further examination at another appropriate test site or under special test protocol on expressed request of the applicant.
3. The field tests shall be carried out under conditions favouring normal growth and expression of all test characteristics. The size of the plots shall be such that plants or parts of plants could be removed for observation and measurement without prejudicing the other observations on the standing plants until the end of the growing period. Each test

plot shall include at least a total of 160 plants. Separate plots for observation and for measurement can only be used if they have been subjected to similar environmental conditions. All the replications shall be sharing similar environmental conditions of the test location.

4. Test plot design:

Plot size:	$4m^2$ (2m × 2m)
Number of rows:	8
Row length**:**	2m
Row to row distance:	25cm
Plant to plant distance:	10cm
Number of replications:	3
Expected number of plants in one replication:	160

5. Additional tests protocols for special tests shall be established by the PPV&FR, Authority.

IV. Methods and observations

1. The characteristics described in the Table of characteristics (see section VII) shall be used for the testing of varieties for their DUS.
2. For the assessment of Distinctiveness and stability, observation shall be made on 30 plants or parts of 30 plants, which shall be equally divided among three replications (10 plants per replication).
3. For the assessment of Uniformity, a population standard of 5% with an acceptance probability of at least 95% shall be applied.
4. For the assessment of all colour characteristics, the latest Royal Horticultural Society (RHS) colour chart shall be used.
5. Unless otherwise indicated, all observation on the plant, the leaf and the stem shall be made before the end of the growing phase and during the full expression time.

V. Grouping of varieties

1. The candidate varieties for DUS testing shall be divided into groups to facilitate the assessment of Distinctiveness. Characteristics which are known from experience not to vary or vary only slightly within a variety and which in their various states of expression

are fairly evenly distributed across all varieties in the collection are suitable for grouping purposes.

2. The following characteristics shall be used for grouping varieties:

   a) Stem: number of primary branches (characteristic 2)

   b) Stem: anthocyamin pigmentation on stem (characteristic 3)

   c) Leaf: shape (characteristic 5)

VI. Characteristics and symbols

1. To assess Distinctiveness, Uniformity and Stability, the characteristics and their states as given in the Table of characteristics (section VII) shall be used.
2. Notes (1 to 9) shall be used to describe the state of each characteristic for the purpose of digital data processing.
3. Legend:

   (*) Characteristics that shall be observed during every growing season on all varieties and shall always be included in the description of the variety, except when the state of expression of any of these characters is rendered impossible by a preceding phenological characteristic or by the environmental conditions of the testing region. Under such exceptional situation, adequate explanation shall be provided.

   (+) See explanation of the characteristic in section VIII. It is to be noted that for certain characteristics the plant parts on which observations to be taken are given in the explanation or figure(s) for clarity and not for the colour variation.
4. The optimum stage of plant growth for assessment of each characteristic is given in the sixth column of the table of characteristics.
5. Types of assessment of characteristics indicated in column seven of table of characteristics is as follows:

MG: Single measurement of a group of plants or parts of plants

MS: Measurement of number of individual plants or parts of plants

VG: Visual recording of single observation of a group of plants or parts of plants

VS: Visual recording by observation of individual plant or parts of plants

VII. Table of Characteristics

Sl. No	Characteristics	States	Notes	Example Varieties	Stage of observation	Type of assessment
1.	2.	3.	4.	5.	6.	7.
1.	Plant: growth habit	Creeping Decumbent	1 3	CIM-Jagriti, BM-16, BM-23-1, BM-mohanlal -	During growing phase (100 days after planting)	VG
2. **(*)**	Stem: number of primary branches/ per plant	Few (<5) Medium (5-10) Many (>10)	3 5 7	BM-16, BM-mohanlal BM-23-1 CIM-Jagriti	At the end of the growing phase (140-150 days after planting)	MG
3.	Stem: anthocyanin pigmentation on stem	Light green Light brown Dark brown	1 3 5	BM-16 BM-23-1, BM-Mohanlal CIM-Jagriti	At the end of the growing phase (60-70 days after planting)	VG
4.	Leaf: stem ratio	Small (<0.7) Large (>7.0)	1 5	BM-mohanlal BM-16, CIM-Jagriti, BM-23-1	At the end of the growing phase (140-150 days after planting)	MG
5. (+)	Leaf: shape	Ovate Obovate Cuneate	1 3 5	CIM-Jagriti - BM-mohanlal	At the end of the growing phase and full expansion of leaves (140-150 days after planting)	VG
6.	Leaf: length(mm)	Short (<1.5cm) Long (>1.5cm)	3 7	BM-mohanlal BM-16, CIM-Jagriti	Full expansion of leaves achieved (140-150 days after planting)	MS
7.	Leaf: width of blade (mm)	Narrow (<0.5cm) Wide (>0.50cm)	3 7	BM-mohanlal BM-16, CIM-Jagriti	Full expansion of leaves achieved (140-150 days after planting)	MS
8. (+)	Leaf: apex shape	Acute Obtuse	3 5	BM-16 CIM-Jagriti	Full expansion of leaves achieved (140-150 days after planting)	VG
9.	Leaf colour	Green Yellowish green Dark green	3 5 7	CIM-Jagriti BM-mohanlal BM-16	Full expansion of leaves achieved (80-90 days after planting)	VG

10.	Flower: Diameter	Small (<0.6cm) Large (>0.6cm)	1 5	BM-mohanlal BM-16, BM-23-1, CIM-Jagriti	At the time of full flowering (140-150 days after planting)	MS
11.	Flower: colour	White Bluish purple Purple	1 2 3	BM-16 CIM-Jagriti BM-mohanlal	At the time of full flowering (140-150 days after planting)	VS
12. **(*)**	Total baccoside content in dry herbage (%)	Low (<0.5%) Medium (0.5-0.7%) High (> 0.7%)	1 3 5	BM-mohanlal BM-23-1 CIM-Jagriti, BM-16	After shade drying of the plants (150 days after planting)	MG

VIII. Explanations for the Table of Characteristics

Characteristic 5. Leaf: Shape

Ovate Obovate Cuneate

Characteristic 8. Leaf: apex shape

Acute Obtuse

Characteristic 12. Total baccoside content in dry herbage (%)

The total baccoside content in dry herbage shall be measured by HPLC method using standard procedures (Deepak M, Sangli GK, Arora P C and Amit A, 2005. Quantitative

determination of the major saponin mixture bacoside A in *Bacopa monnieri* by HPLC. Phytochem. Annal. 16: 24-19).

IX. Literature

Singh BM, Mahajan RK, Srivastav and Pareek SK. (2003) Minimal Descriptors of Agri-Horticultural Crops, Part IV. Medicinal and Aromatic Plants. National Bureau of Plant Genetic Resources, Pusa Campus, New Delhi (INDIA).

X. DUS testing centers

Nodal Center	Other Center
Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow-226015	1. CIMAP Resource Center (CRC) Pantnagar 2. TBGRI, Palode, Kerala

Coconut (*Cocos nucifera* L.)

I. Subject

These test guidelines shall apply to all varieties, hybrids and parental lines of hybrid varieties of coconut (*Cocos nucifera* L.).

II. Planting material required

1. The Protection of Plant Varieties and Farmers' Rights Authority (PPV & FRA) shall decide when, where and in what quantity and quality the planting material are required for testing of the variety denomination applied for registration under the Protection of Plant Varieties and Farmers' Rights (PPV & FR) Act, 2001.
2. Applicants submitting such planting material from a country other than India shall make sure that all customs and quarantine requirements stipulated under relevant national legislations and regulations are complied with.
3. The minimum number of planting material to be supplied by the applicants or his nominee during June-July in one or several samples shall be:30 numbers of one-year-old seedlings raised in polybag containing standard potting mixture
4. The planting materials supplied shall be healthy, not lacking in vigour or nutrient deficiency as well as free from pests or diseases. The age of the seedlings shall be 12 months from the date of sowing in the polythene bags (60 cm x 45 cm size) with soil mixture (1:1:1 soil, compost and sand).
5. The planting material should not have undergone any treatment unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.
6. The juvenile growth characters shall be recorded on the seedlings supplied at the DUS centre. The Expert Committee constituted by the PPV&FRA in consultation with the DUS centre shall be authorized to inspect the mother palms of the candidate variety and record inflorescence and fruit characters from the mother palms of the candidate variety.

III. Conduct of Tests

1. The test shall normally be conducted at two locations. If any essential characteristics of the candidate variety is/are not expressed for visual observation at these locations, the variety shall be considered for further examinations at another appropriate test site or under special test protocol on expression of interest of the applicant.
2. The field test shall be carried out under conditions favouring normal growth and expression of all test characteristics.
3. Test plot design:

   As a minimum, each test shall include twelve plants, planted in a compact block in the DUS test centre, with a spacing of 4m x 4m.

4. Adult palm and fruit characters will be assessed to include two similar harvest seasons between March and May.
5. Mother palms of candidate variety:- As a minimum, eight mother palms of the candidate variety, planted in compact blocks, should be available for inspection and examination for 'on site' DUS testing. The palms should be healthy and free of pests and diseases and raised under standard management practices. In the absence of prescribed number of parental palms of the candidate variety for 'on site' testing, the DUS test duration shall be enhanced to include at least two similar harvest seasons (March-May) at the DUS Testing centre.
6. Additional test protocols and guidelines for special characters shall be established by the PPV&FR Authority.

IV. Methods and observation

1. The characteristics described in the Table of characteristics (See Section VII) shall be used for testing of candidate varieties for their DUS.
2. Unless otherwise indicated, all observations determined by measurement or counting shall be made on eight plants or parts of eight plants.

3. For the assessment of uniformity, a population standard of 1% and an acceptance probability of at least 95% shall be applied. In the case of a sample size of 10 plants, the maximum number of off-types allowed should be 1.
4. All leaf characters shall be recorded on the youngest fully opened leaf from the spindle, unless otherwise stated.
5. For assessment of all colour characteristics, the Royal Horticultural Society (RHS) colour chart shall be used.
6. For the assessment of distinctiveness and stability, observations shall be made on eight plants or parts of eight plants.

V. Grouping of the varieties

1. The candidate varieties for DUS testing shall be divided into groups for facilitating the assessment of distinctiveness. Characteristics, which are known from experience not to vary, or to vary only slightly, within a variety and which in their various states are evenly distributed across all varieties in the collection are suitable for grouping purposes.
2. The following characteristics shall be used for grouping of coconut varieties:
   i) Plant: Petiole colour (characteristic 1)
   ii) Plant: Height (characteristic 4)
   iii) Inflorescence: Intra spadix overlapping of male and female phases (characteristic 15)
   iv) Fruit: Colour (characteristic 17)
   v) Fruit: Shape (polar view) (characteristic 18)
   vi) Husked fruit: Shape (characteristic 23)

VI. Characteristics and symbols

1. To assess Distinctiveness, Uniformity and Stability, the characteristics and their states as given in the Table of characteristics (Section VII) shall be used.
2. Notes (1-9) shall be used to describe the state of each character for the purposes of electronic data processing and these notes shall be given against the states of each characteristic.

3. Type of assessment of characteristics indicated in column seven of Table of Characteristics are as follow:

   MG: Measurement by single observation of a group of plants or part of plants.

   MS: Measurement of a number of individual plants or part of plants

   VG: Visual assessment by a single observation of a group of plants or parts of plants.

   VS: Visual assessment by observation of individual plant or part of plants.

4. Legend

   (*) Characteristics that shall be used on all varieties in every growing period over which the examinations are made and always be included in the variety descriptions, except when the state of expression of a preceding characteristics or regional environmental conditions render this impossible.

   (+) See explanation on the Table of characteristics in Section VII. It is to be noted that for certain characteristics the plant parts on which observations to be taken are given in the explanation or figure(s) for clarity and not for colour variation.

VII. Table of Characteristics

Sl. No.	Characteristics	States	Note	Example variety	Stage of observation	Type of assessment
1	Plant: Petiole colour (*)	Green	1	CGD	One year old seedlings	VG
		Yellow	3	MYD		
		Red yellow	5	COD		
		Brown	7	Chandra Sankara		
2	Plant: Collar girth (cm) (+)	Low (<8)	3	CGD, GBGD	One year old seedlings	MS
		Medium (8-12)	5	WCT		
		High (>12)	7	Kera Chandra		
3	Plant: Number of split	Absent	1	WCT	One year old	MS

	leaves (+)	Present	9	MYD	seedlings	
4	Plant: Height (cm) (*) (+)	Short (<130) Medium (130-160) Tall (>160)	3 5 7	CGD MYD Kera Chandra	One year old seedlings	MS
5	Plant: Number of leaves produced in one year (+)	Few (<6) Medium (6-10) Many (>10)	3 5 7	CGD COD Kera Chandra	Count starting from 2 months after planting for a period of one year (12 months)	MS
6	Leaflet: Length (cm) (+)	Short (<120) Medium (120-200) Long (>200)	3 5 7	CGD WCT --	24 months after planting	MS
7	Leaflet: Breadth (cm) (+)	Narrow (<2) Medium (2-4) Broad (>4)	3 5 7	CGD WCT Kera Chandra	24 months after planting	MS
8	Leaf: Tip (+)	Straight Intermediate Drooping	3 5 7	-- WCT MYD	24 months after planting	VG
9	Inflorescence: Emergence (months) (+)	Early (< 30) Medium (30-60) Late (>60)	3 5 7	CGD COD, GBGD WCT	After planting	VG
10	Inflorescence: Length (cm) (+)	Short (<70) Medium (70-90) Long (>90)	3 5 7	CGD MYD WCT	To be observed on inflorescence opening during the month of September-November	MS

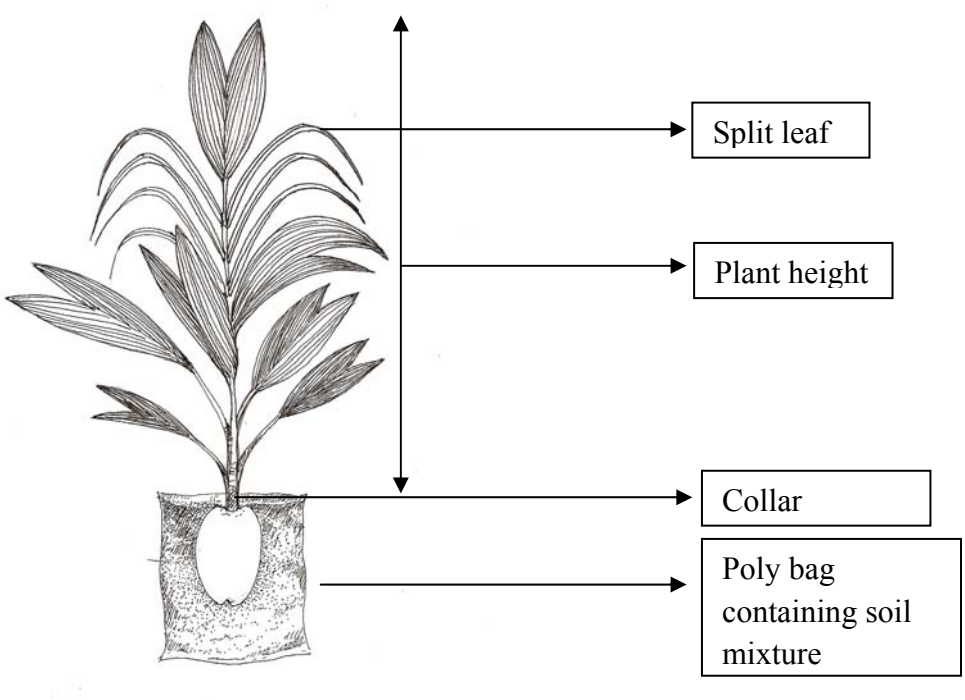
11	Inflorescence: Stalk girth (cm) (+)	Thin (<8) Medium (8-10) Thick (>10)	3 5 7	CGD WCT -	To be observed on inflorescence opening during the month of September-November	MS
12	Inflorescence: Number of spikelets	Sparse (<5) Few (5-15) Medium (16-36) Many (>36)	1 3 5 7	WCT 01Spicata -- CGD Kalpa Dhenu	To be observed on inflorescence opening during the month of September-November	MS
13	Inflorescence: Number of female flowers	Few (<20) Medium (20-30) Many (>30)	3 5 7	COD MYD --	To be observed on inflorescence opening during the month of September-November	MS
14	Inflorescence: Duration of female phase (days) (+)	Short (<5) Medium (5-8) Long (>8)	3 5 7	WCT COD --	To be observed on inflorescence opening during the month of September-November	MS
15	Inflorescence: Intra spadix overlapping of male and female phases (+) (*)	Absent Present	1 9	WCT CGD, MYD, COD	To be observed on inflorescence opening during the month of September-November	VG
16	Fruit: Quantity of tender nut water (ml) (+)	Low (<200) Medium (201-300) High (301-400) Very High (>400)	3 5 7 9	CGD MYD COD --	To be measured in 7 month old tender nuts during the month of September-November	MS

17	Fruit: Colour (*)	Yellow Yellow Red Red Yellow Red Green Green Red Green Green Yellow Yellow Green Brown	1 2 3 4 5 6 7 8 9	MYD -- COD -- -- CGD WCT JVT --	To be observed on fresh tender fruits (7 month old) during the month of September-November	VG
18	Fruit: Shape (polar view) (*) (+)	Oval Round Oblong	3 5 7	WCT COD CGD	To be observed on mature, dry 11-12 month old fruits during March-May	VG
19	Fruit: Shape (equatorial view) (+)	Flat Round Angular	3 5 7	-- COD --	To be observed on mature, dry 11-12 month old fruits	VG
20	Fruit: Length (cm) (+)	Short (<15) Medium (15-25) Long (26-35) Very Long (>35)	3 5 7 9	LMT COD -- --	To be observed on mature, dry 11-12 month old fruits	MS
21	Fruit: Breadth (cm) (+)	Narrow (<10) Medium (10-15) Broad (>15)	3 5 7	-- COD --	To be observed on mature, dry 11-12 month old fruits	MS
22	Fruit: Husk thickness (cm)	Thin (<2) Medium (2-3)	3 5	GBGD WCT	To be measured on husks of husked dry fruits (11-12 month	MS

	(+)	Thick (>3)	7	Kalpa Dhenu	old)	
23	Husked Fruit: Shape (*) (+)	Oval Round Oblong	3 5 7	CGD COD LCT	To be observed on husked nuts of mature, dry 11-12 month old fruits	VG
24	Husked Fruit: Length (cm) (+)	Short (<8) Medium (8-13) Long (>13)	3 5 7	-- CGD WCT	To be measured on husked dry fruits (11-12 month old)	MS
25	Husked Fruit: Breadth (cm) (+)	Narrow (<8) Medium (8-13) Broad (>13)	3 5 7	-- COD, WCT --	To be measured on husked dry fruits (11-12 month old)	MS
26	Shell: Thickness (mm) (+)	Thin (<3) Medium (3-5) Thick (>5)	3 5 7	CGD WCT --	To be measured on shells of husked dry fruits (11-12 month old)	MS
27	Fresh Endosperm: Thickness (mm) (+)	Thin (<11) Medium (11-14) Thick (>14)	3 5 7	CGD WCT --	To be measured in husked dry fruits (11-12 month old)	MS
28	Fruit: Weight (g) (+)	Very Low (<400) Low (400-700) Medium (701-1200) High (1201-1900) Very High (>1900)	1 3 5 7 9	LMT CGD WCT Kalpa Pratibha SNRT	To be measured on mature, dry 11-12 month old fruits	MS
29	Husked fruit: Weight	Very low (<250)	1	LMT	To be measured	MS

	(g) (+)	Low (251-450) Medium (451-850) High (851-1000) Very High (>1000)	3 5 7 9	CGD WCT Kalpa Pratibha SNRT	on mature, dry 11-12 month old fruits	
30	Husk: Weight (g) (+)	Very Low (<150) Low (151-300) Medium (301-600) High (>600)	1 3 5 7	LMT MYD Kera Chandra SNRT	To be measured on mature, dry 11-12 month old fruits	MS
31	Shell: Weight (g) (+)	Very Low (<80) Low (81-120) Medium (>121-150) High (>150)	1 3 5 7	LCT, CGD WCT Kalpa Dhenu	To be measured on mature, dry 11-12 month old fruits	MS
32	Dry Endosperm: Weight (g) (+)	Low (<100) Medium (100-200) High (>200)	3 5 7	CGD WCT SNRT	To be recorded on endosperm (6% moisture)mature, dry 11-12 month old fruits, after drying the	MS

VIII. Explanations on the Table of Characteristics



Characteristic 2: Plant: Collar girth

The girth (circumference) of the seedling shall be measured at the collar region (the point of attachment of the seedling to the nut) at the time of planting in the field.

Characteristic 3: Plant: Number of split leaves

The number of leaves showing splitting of lamina into individual leaflets shall be recorded on one year old seedlings.

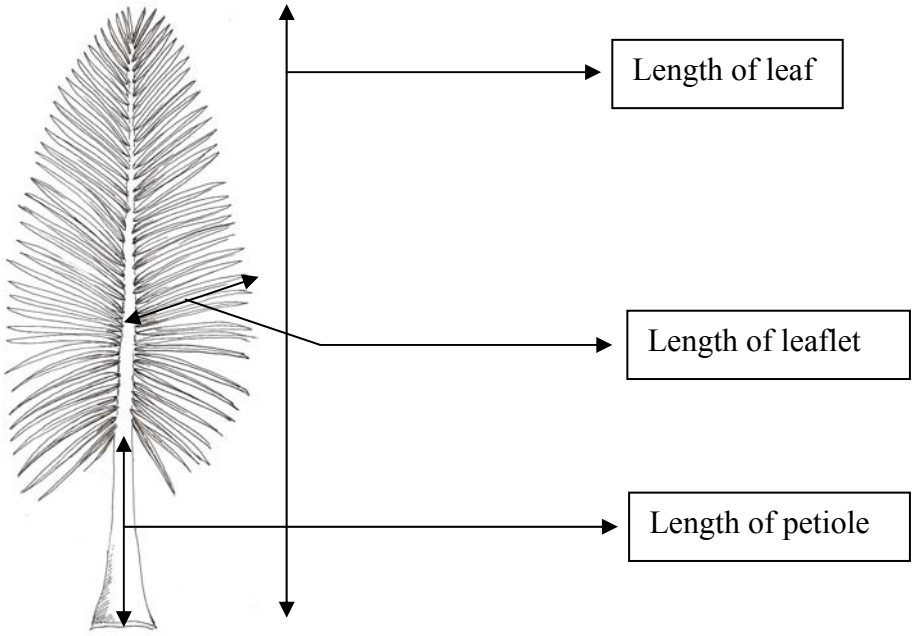
Characteristic 4: Plant: Height

The height of the plant shall be measured in cm starting from the base of the palm to the tip of the longest leaf.

Characteristic 5: Plant: Number of leaves produced in one year

The number of fresh leaves produced during a one-year period, starting from 2 months after planting to 14 months after planting, shall be recorded.

Characteristic 6: Leaflet: Length



The length of leaflet shall be measured on one leaflet each on either side of the rachis, from the middle portion of the leaf and averaged.

Characteristic 7: Leaflet: Breadth

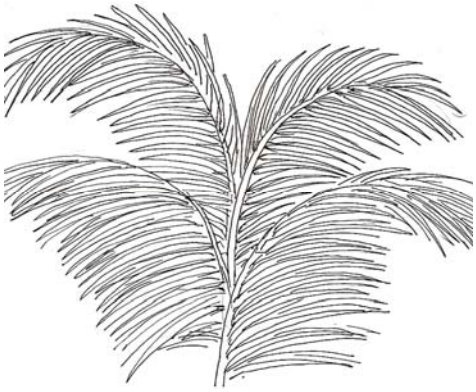
The breadth of the leaflet shall be measured in cm at the broadest point on one leaflet each on either side of the rachis, from the middle portion of the leaf and averaged.

Characteristic 8:Leaf: Tip

The natural inclination of the leaf tip shall be observed on youngest fully opened leaf, 24

3- Straight

5 - Intermediate

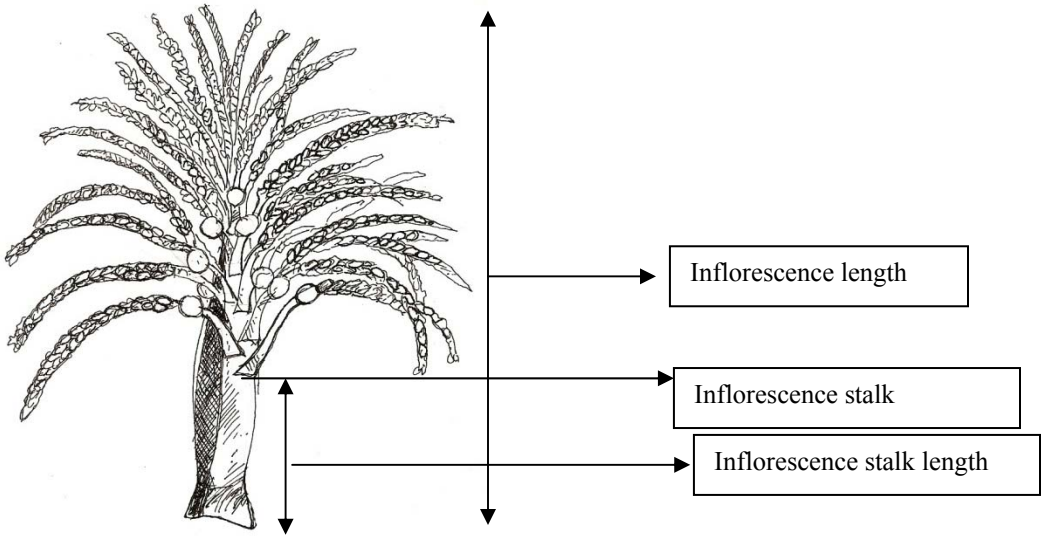


7 - Drooping

Characteristic 9: Inflorescence: Emergence (months)

Inflorescence Emergence shall be recorded as the period in months from the time of planting one year old seedling to flowering (splitting of the spathe exposing the inflorescence).

Characteristic 10: Inflorescence: Length



The inflorescence length shall be measured in cm starting from the base of the inflorescence to the tip.

Characteristic 11: Inflorescence: Stalk girth

The inflorescence stalk girth shall be measured in cm as the circumference just below the point of attachment of the most proximal spikelet (first spikelet).

Characteristic 14: Inflorescence: Duration of female phase

The duration of female phase is the period in days between the opening of the first female flower and opening of the last female flower in an inflorescence.

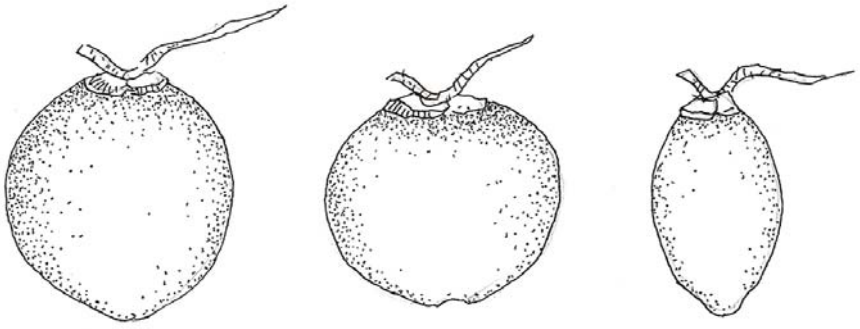
Characteristic 15: Inflorescence: Intra spadix overlapping of male and female phases

Intra spadix overlapping of male and female phases is the period of overlapping in days between the male phase and female phase of the same inflorescence.

Characteristic 16: Fruit: Quantity of tender nut water

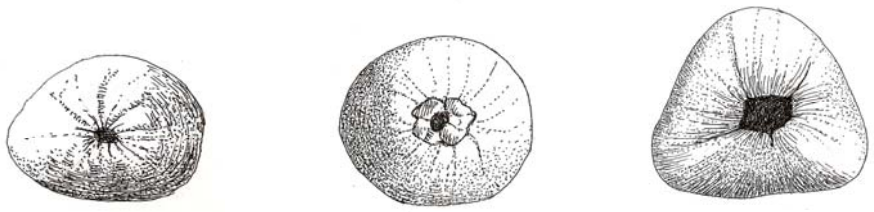
The quantity of tender nut water shall be recorded in millilitres on at least 16 tender fruits (7 month old) and averaged.

Characteristic 18: Fruit: Shape (polar view)



3 - Oval **5 - Round** **7 - Oblong**

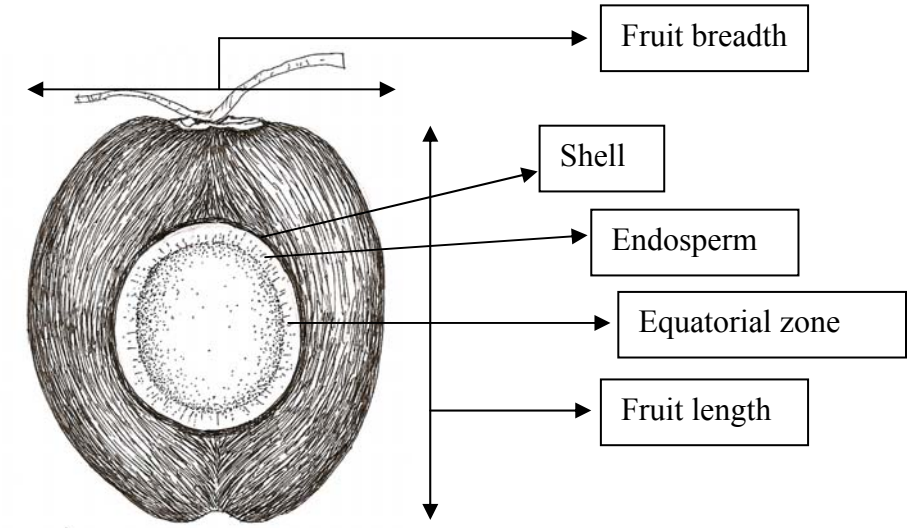
Characteristic 19: Fruit: shape (equatorial view)



3 - Flat **5 - Round** **7 - Angled**

Characteristic 20: Fruit: Length

Fruit length shall be measured in cm as the vertical distance between the top and bottom of the fruit, on at least 16 mature fruits and averaged.

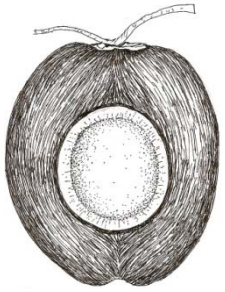


Characteristic 21: Fruit: Breadth

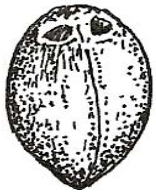
Fruit breadth shall be measured in cm as the equatorial distance at the broadest position of the fruit, on at least 16 mature fruits and averaged.

Characteristic 22: Fruit: Husk thickness

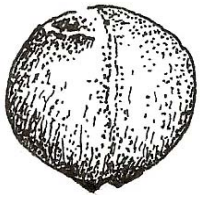
The thickness of the husk shall be measured in cm at the equatorial distance at the broadest position of the fruit, on at least 16 mature fruits and averaged.



Characteristic 23: Husked fruit: Shape



3- Oval

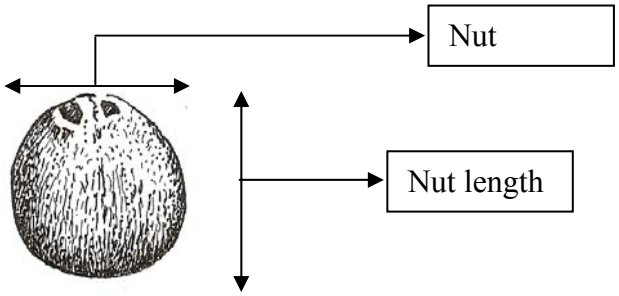


5 - Round

7 - Oblong

Characteristic 24: Husked fruit: Length

Husked fruit length shall be measured in cm as the vertical distance between the top and bottom of the nut, at the longest point, on at least 16 nuts from mature fruits and averaged.



Characteristic 25: Husked fruit: Breadth

Husked fruit breadth shall be measured in cm as the equatorial distance at the broadest portion of the nut, on at least 16 nuts from mature fruits and averaged.

Characteristic 26: Shell: Thickness

Shell thickness shall be measured in mm at 3 locations in the shell at the equatorial zone and averaged and observations are to be taken on shells of at least 16 nuts from mature fruits.

Characteristic 27: Fresh Endosperm: Thickness

Fresh endosperm thickness shall be measured in mm at 3 locations of the endosperm at the equatorial zone and averaged and observations are to be taken on endosperm of at least 16 nuts from mature fruits.

Characteristic 28: Fruit: Weight

The weight of the fruit shall be recorded in grams on at least 16 mature fruits and averaged.

Characteristic 29: Husked Fruit: Weight

The weight of the husked fruit shall be recorded in grams on at least 16 mature fruits and averaged.

Characteristic 30: Husk: Weight

The weight of the husk shall be recorded in grams on at least 16 mature fruits and averaged.

Characteristic 31: Shell: Weight

The weight of the shell shall be recorded in grams on at least 16 mature fruits and averaged.

Characteristic 32: Dry endosperm: Weight

The weight of the dry endosperm, after drying (to 6% moisture level), shall be recorded in grams on at least 16 mature fruits and averaged.

IX. DUS testing centers

Nodal Center	Other Center
Central Plantation Crops Research Institute, Kasaragod	---

PUBLIC NOTICE

Sub: Advertisement is given under sub-section (2) and (3) of Section 21 of the Protection of Plant Varieties and Farmers' Rights Act, 2001 and Rules 30 and 31 of PPV & FR Rules, 2003

The Ld. Registrar vide order dated 11.02.2011 has withdrawn the acceptance granted to the application for registration of RCH 2 BG II (published in PVJ Vol.3. No.6 dated 01.06.2009) and ordered the re-publication of the advertisement for registration of RCH 2 BG II. Accordingly, the said application is re-advertised herewith.

The application for registration of variety RCH 2 BG II has been accepted subject to the condition of fulfillment of provisions under section 19 of the Act read with Rule 29 of PPV&FR Rules, 2003. The passport data of the said variety furnished by the applicant is herewith advertised as specified for calling objections from the interested persons in the matter.

The place or places where the specimen of the variety may be inspected can be obtained in writing from the Registrar of the PPV & FR Authority.

Any person may, within three months from the date of advertisement of the application give notice of opposition in writing to the registration of variety (as per Form PV-3 of the First Schedule of PPV&FR Rules, 2003). Oppositions, if any, to the registration must be submitted, in triplicate, to the Registrar, PPV&FRA, NASC Complex, DPS Marg, New Delhi -110 012 accompanied with the fee of Rs.1,500/- (Rupees One Thousand and Five Hundred Only) by way of Demand Draft drawn in favour of "The Registrar, PPV & FR Authority" payable at New Delhi.

FORM O - 1
(See Rule 30)
Government of India, Plant Varieties Registry
Advertisement of accepted application for registration

01. Application No. | **N 106** | **GH 118** | **08** | **372** | filed on **13/05/2008** by **Dr. Malathi Lakshmikumaran, Lakshmikumaran & Sridharan, B 6/10, Safdarjung Enclave, New Delhi – 110 029** on behalf of **Rasi Seeds Private Limited, 273, Kamarajanar Road, Attur, Salem (Dt) – 636102, Tamil Nadu India** for a **new plant variety** of crop **Tetraploid Cotton (***Gossypium hirsutum* L.) having denomination **RCH 2 BGII ,** the specification including its drawing and or photograph(s) of which are given below, has been accepted and given registration number --------NA----- on -------NA------**.**

The convention application no. ------NA-------, in respect of the said variety has been filed on ------NA-----, in -----NA---Appropriate office for the opposition of proceeding under Rule 29, of the Protection of Plant Varieties and Farmers' Rights Rules, 2003 is **Office of the Registrar, PPV & FR Authority, New Delhi – 110 012.**

Passport Data of the variety RCH 2 BGII:

Applicant : Rasi Seeds Private Limited.

Address of the Applicant : 273, Kamarajanar Road, Attur, Salem (Dt) - 636102, Tamil Nadu, India

Nationality of Applicant : Indian

Application details

a. Number : | **N 106** | **GH 118** | **08** | **372** |

b. Date of receipt : 13/05/2008

c. Date of acceptance : 11/02/2011

Crop (Taxonomical Lineage) : Tetraploid Cotton (*Gossypium hirsutum* L.)

Denomination : RCH 2 BGII

Type of Variety : New

Classification of Variety : Transgenic (Hybrid)

Previously Proposed : Not applicable

Denomination

Name of Parental Material : Parent 1: RC 91 BG II (Female Parent)

Parent 2: RC 86 (Male Parent)

Name of Reference Varieties : RCH 20 Bt & RCH 111 Bt

Variety Description:

A. Group Characteristics	**Remarks, measured values, example varieties, etc.**
Species	*Gossypium hirsutum* L.
Leaf: Shape	Palmate [LRA 5166 (H)]
Flower: Petal colour	Cream [LRA 5166 (H)]
Flower: Pollen colour	Cream [Anjali (H)]
Boll: shape	Ovate [Surabhi (H)]
Fibre: length	Long [Supriya (H)]

B. Distinct Characteristics:

RCH 2 BGII has distinguishing characters like sparse leaf hairiness, medium time of flowering, cream pollen colour, medium boll weight of seed cotton/boll, bold seed size, medium ginning percentage and long fiber length.

C. Reference varieties:

1. RCH 20 Bt: It has distinguishing characters like medium leaf hairiness, late time of flowering, yellow pollen colour, large boll weight of seed cotton/boll, very bold seed size, medium ginning percentage and extra long fibre length.

2. RCH 111 Bt: It has distinguishing characters like medium leaf hairiness, late time of flowering, cream pollen colour, large boll weight of seed cotton/boll, very bold seed size, high ginning percentage and long fiber length.

D. Date of commercialization of the variety	GEAC approval vide letter no. 12/34/2005-CS-II dated 15/05/2007. Commercialized since 30/05/2007 with same denomination.

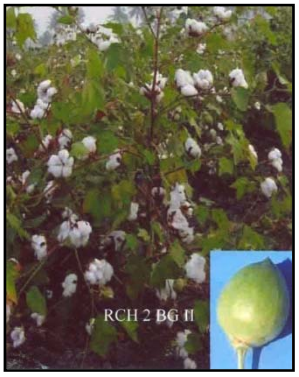
E. Photographs: (See Figure 01)

Hkkjrh; ik/kk fdLe tjuy [kM 05] vad 02 & 03] ekpZ 01] 2011 esa vf/klfpr iR;k'kh fdLeksa ds fp=

Photographs of candidate varieties notified in Plant Variety Journal of India Vol. 05, No. 02 & 03, March 01, 2011

fp= 01: prqxq.kr dikl % vkjlh,p 2 cht hAA

Figure 01: Tetraploid Cotton: RCH 2 BG II



चित्र 01: फसल और गुले का सामान्य दृश्य
Figure 01: General view of the crop and boll

PUBLIC NOTICE

Sub: Advertisement is given under sub-section (2) and (3) of Section 21 of the Protection of Plant Varieties and Farmers' Rights Act, 2001 and Rules 30 and 31 of PPV & FR Rules, 2003

It is hereby advertised that the application (s) for registration of varieties listed herein have been accepted subject to the condition of fulfillment of provisions under section 19 of the Act read with Rule 29 of PPV&FR Rules, 2003. The passport data of each variety furnished by the applicant are herewith advertised as specified for calling objections from the interested persons in the matter.

The place or places where the specimen of the variety may be inspected can be obtained in writing from the Registrar of the PPV & FR Authority.

Any person may, within three months from the date of advertisement of the application(s) give notice of opposition in writing to the registration of variety (as per Form PV-3 of the First Schedule of PPV&FR Rules, 2003). Oppositions, if any, to the registration must be submitted, in triplicate, to the Registrar, PPV&FRA, NASC Complex, DPS Marg, New Delhi -110 012 accompanied with the fee of Rs.1,500/- (Rupees One Thousand and Five Hundred Only) by way of Demand Draft drawn in favour of "The Registrar, PPV & FR Authority" payable at New Delhi.

FORM O - 1
(See Rule 30)
Government of India, Plant Varieties Registry
Advertisement of accepted application for registration

01. Application No. | **E1** | **PG1** | **07** | **013** | filed on **21/05/2007** by **M/S Lakshmikumaran & Sridharan, B 6/10, Safdarjung Enclave, New Delhi – 110 025** on behalf of **Maharashtra Hybrid Seed Company Limited, Resham Bhavan, 4th Floor, 78, Veer Nariman Road, Mumbai – 400 020, India** for a **extant (Variety of Common Knowledge)** of crop **Pearl Millet** [*Pennesitum glaucum* (L.) R.Br.] having denomination **MRB 2210**, the specification includes its drawing and or photograph(s) of which are given below, has been accepted and given registration number -------NA -------on-------- NA ------.

The convention application no. -----NA-----, in respect of the said variety has been filed on -----NA------, in ---NA----.

Appropriate office for the opposition of proceeding under Rule 29, of the Protection of Plant Varieties and Farmers' Rights Rules,2003 is **Office of the Registrar, PPV & FR Authority, New Delhi – 110 012.**

Passport data of the variety MRB 2210:

Applicant : Maharashtra Hybrid Seed Company Limited

Address of the Applicant : Resham Bhavan, 4th Floor, 78, Veer Nariman Road, Mumbai – 400 020, India

Nationality of Applicant : Indian

Application details

a. Number : | **E1** | **PG1** | **07** | **013** |

b. Date of receipt : 21/05/2007

c. Date of acceptance : 15/12/2010

Crop (Taxonomical Lineage) : Pearl Millet [*Pennesitum glaucum* (L.) R.Br.]

Denomination : MRB 2210

Type of Variety : Extant (Variety of Common Knowledge)

Classification of Variety : Hybrid

Previously proposed

denomination : Not applicable

Name of Parental Material : BMS 277 x BPL 2003

Name of Reference Varieties : MH-169, Shradha, JKBH-26 and PHI-7688

Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Plant: Time of spike emergence	Medium [Pusa 23, Pusa 605, 843]
Anther: Colour	Purple [RHB 30, 403 A]
Spike: Shape	Candle [842B, ICMP 423, ICMH 356]
Seed: Colour	Grey brown [PPMI 69, GHB 526]
Seed: Shape	Obovate [842B, D 23]

B. Distinct Characteristics:

MRB 2210 has distinguishing characters like absence of anthocyanin colouration of first leaf sheath, erect plant growth habit, medium time of spike emergence, purple anther colour, presence of node pubescence, red node pigmentation, long spike length, presence of anthocyanin pigmentation of glume, absence of spike bristles, candle shaped spikes, presence of tip sterility, semi-compact spike density, grey brown seed colour, obovate seed shape and very bold seed weight of 1000 grains.

C. Reference varieties:

1. MH-169: It has distinguishing characters like absence of anthocyanin colouration of first leaf sheath, erect plant growth habit, late time of spike emergence, brown anther colour, presence of node pubescence, green node pigmentation, medium spike length, absence of anthocyanin pigmentation of glume, presence of spike bristles, brown spike bristles, candle shaped spikes, absence of tip sterility, compact spike density, grey brown seed colour, obovate seed shape and medium seed weight of 1000 grains.

2. Shradha: It has distinguishing characters like absence of anthocyanin colouration of first leaf sheath, intermediate growth habit, late time of spike emergence, yellow anther colour, absence of node pubescence, green node pigmentation, small spike length, presence of anthocyanin pigmentation of glume, presence of spike bristles, purple spike bristles, lanceolate shaped spikes,

presence of tip sterility, compact spike density, deep grey seed colour, globular seed shape and very bold seed weight of 1000 grains.

3. **JKBH-26:** It has distinguishing characters like presence of anthocyanin colouration of first leaf sheath, intermediate growth habit, late time of spike emergence, yellow anther colour, absence of node pubescence, purple node pigmentation, medium spike length, absence of anthocyanin pigmentation of glume, absence of spike bristles, conical shaped spikes, presence of tip sterility, compact spike density, grey brown seed colour, obovate seed shape and bold seed weight of 1000 grains.

4. **PHI-7688:** It has distinguishing characters like presence of anthocyanin colouration of first leaf sheath, erect plant growth habit, late time of spike emergence, purple anther colour, presence of node pubescence, red node pigmentation, medium spike length, absence of anthocyanin pigmentation of glume, absence of spike bristles, lanceolate shaped spikes, absence of tip sterility, compact spike density, deep grey seed colour, obovate seed shape and small seed weight of 1000 grains.

D. Date of commercialization of the variety	Commercialized since 26/04/2003**.**

E. **Photographs:** (See figures 01a, b and c)

02. Application No. | **E7** | **ZM23** | **07** | **096** | filed on **14/06/2007** by **JK Agri Genetics Limited, 1-10-177, 4th Floor, Varun Towers, Begumpet, Hyderabad – 500016, Andhra Pradesh, India** on behalf of -------NA----- for a **extant (Variety of Common Knowledge) plant variety** of crop **Maize** [*Zea mays* L.] having denomination **JK SURABHI**, the specification includes its drawing and or photograph(s) of which are given below, has been accepted and given registration number ---------NA--------on ----------NA--------.

The convention application no. -----NA-----, in respect of the said variety has been filed on -----NA------, in ---NA----.

Appropriate office for the opposition of proceeding under Rule 29, of the Protection of Plant Varieties and Farmers' Rights Rules, 2003 is **Office of the Registrar, PPV & FR Authority, New Delhi – 110 012.**

Passport data of the variety JK SURABHI:

Applicant : JK Agri Genetics Limited

Address of the Applicant : 1-10-177, 4th Floor, Varun Towers,

Begumpet, Hyderabad – 500016, Andhra Pradesh

Nationality of Applicant : Indian

Application details

a. Number : | E7 | ZM23 | 07 | 096 |

b. Date of receipt : 14/06/2007

c. Date of acceptance : 21/01/2011

Crop (Taxonomical Lineage) : Maize (*Zea mays* L.)

Denomination : JK SURABHI

Type of Variety : Extant (Variety of Common Knowledge)

Classification of Variety : Hybrid

Previously proposed denomination : Not applicable

Name of Parental Material : (M 32 x M 34) x M 15-1

Name of Reference Varieties : Pro-4212

Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Tassel: Time of anthesis (on middle third of main axis, 50% of plants)	Early [HKI 1025]
Ear: Time of silk emergence (50% plants)	Early [HKI 1025]
Ear: Anthocyanin colouration of silks	Present [HKI 323]
Plant: Length	Long [HQPM 1]
Ear: Type of grain	Semi-dent [HKI 1344]
B. Distinct Characteristics:	

JK SURABHI has distinguishing characters like absence of anthocyanin colouration of base of glume (in the middle third of main axis) of tassel, narrow angle between main axis and lateral branches (in lower third of tassel) and presence of anthocyanin colouration of silks.

C. Reference varieties: **1. Pro-4212:** It has distinguishing characters like presence of anthocyanin colouration of base of glume (in the middle third of main axis) of tassel, wide angle between main axis and lateral branches (in lower third of tassel) and absence of anthocyanin colouration of silks.

D. Date of commercialization of the variety	Commercialized since 05/04/2003.

E. Photographs: (See figures 02a, b and c)

03. Application No. | **N17** | **SB42** | **09** | **352** | filed on **31/08/2009** by **M/S Lakshmikumaran & Sridharan, B 6/10, Safdarjung Enclave, New Delhi – 110 025** on behalf of **Devjen NV, Technologiepark 30, B-9052, Zwijnaarde, Belgium** for a **new plant variety** of crop **Sorghum** [*Sorghum bicolor* L.] having denomination **DGJ-015**, the specification includes its drawing and or photograph(s) of which are given below, has been accepted and given registration number ---------NA--------on -----------NA--------.

The convention application no. -----NA-----, in respect of the said variety has been filed on -----NA------, in ---NA----.

Appropriate office for the opposition of proceeding under Rule 29, of the Protection of Plant Varieties and Farmers' Rights Rules, 2003 is **Office of the Registrar, PPV & FR Authority, New Delhi – 110 012.**

Passport data of the variety DGJ-015:

Applicant : Devjen NV

Address of the Applicant : Technologiepark 30, B-9052,
Zwijnaarde, Belgium

Nationality of Applicant : Indian

Application details

a. Number : | N17 | SB42 | 09 | 352 |

b. Date of receipt : 31/08/2009

c. Date of acceptance : 13/07/2010

Crop (Taxonomical Lineage) : Sorghum [*Sorghum bicolor* L.]

Denomination : DGJ-015

Type of Variety : New

Classification of Variety : Hybrid

Previously proposed denomination : Not applicable

Name of Parental Material : MLA 55 x R 421

Name of Reference Varieties : CSH-9 and CSH-14

Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Kharif or *Rabi* adaptation	*Kharif*
Plant: Time of panicle emergence (50%plants with complete spike emergence)	Medium [CSH 16]
Plant : Total height at maturity	Long [GJ 39]
Panicle : Shape	Panicle broader in upper part [JJ 741]
Caryopsis: Colour after threshing	Yellow-white [Pant Chari 5]

B. Distinct Characteristics:

DGJ-015 has distinguishing characters like grayed purple anthocyanin colour of coleoptiles of seedling, yellow green leaf midrib colour, medium time of panicle emergence, medium natural height of plant up to flag leaf, presence of yellow colour midlrib of flag leaf, presence of stigma yellow colouration, long plant total height, long panicle without peduncle, semi-loose panicle density at maturity, panicle broader in upper part, medium visible length of neck of panicle above sheath and yellow white caryopsis colour after threshing.

C. Reference varieties:

1. CSH-9: It has distinguishing characters like grayed purple anthocyanin colour of seedling,

white leaf midrib colour, medium time of panicle emergence, medium natural height of plant up to flag leaf, presence of yellow colour midlrib of flag leaf, absence of stigma yellow colouration, medium plant total height, long panicle without peduncle, semi-compact panicle density at maturity, symmetric panicle, very long visible length of neck of panicle above sheath and grayed white caryopsis colour after threshing. **2. CSH-14:** It has distinguishing characters like yellow anthocyanin colour of seedling, white leaf midrib colour, early time of panicle emergence, short natural height of plant up to flag leaf, absence of yellow colour midlrib of flag leaf, presence of stigma yellow colouration, medium plant total height, medium panicle without peduncle, semi-loose panicle density at maturity, panicle broader in upper part, medium visible length of neck of panicle above sheath and yellow white caryopsis colour after threshing.

D. Date of commercialization of the variety	Not commercialized.

E. Photograph (s): (See figures 03a, b and c)

04. Application No. | **N20** | **SB45** | **09** | **355** | filed on **31/08/2009** by **M/S Lakshmikumaran & Sridharan, B 6/10, Safdarjung Enclave, New Delhi – 110 025** on behalf of **Devjen NV, Technologiepark 30, B-9052, Zwijnaarde, Belgium** for a **new plant variety** of crop **Sorghum** [*Sorghum bicolor* L.] having denomination **DGJ-021**, the specification includes its drawing and or photograph(s) of which are given below, has been accepted and given registration number ---------NA--------on -----------NA--------.

The convention application no. -----NA-----, in respect of the said variety has been filed on -----NA------, in ---NA----.

Appropriate office for the opposition of proceeding under Rule 29, of the Protection of Plant Varieties and Farmers' Rights Rules, 2003 is **Office of the Registrar, PPV & FR Authority, New Delhi – 110 012.**

Passport data of the variety DGJ-021:

Applicant : Devjen NV

Address of the Applicant : Technologiepark 30, B-9052,
Zwijnaarde, Belgium

Nationality of Applicant : Indian

Application details

a. Number : | N20 | SB45 | 09 | 355 |

b. Date of receipt : 31/08/2009

c. Date of acceptance : 30/11/2010

Crop (Taxonomical Lineage) : Sorghum [*Sorghum bicolor* L.]

Denomination : DGJ-021

Type of Variety : New

Classification of Variety : Inbred line

Previously proposed denomination : Not applicable

Name of Parental Material : MLSR 1192 x MLR 34

Name of Reference Varieties : CS 3541 and AKR 150

Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Kharif or *Rabi* adaptation	*Kharif*
Plant: Time of panicle emergence (50%plants with complete spike emergence)	Medium [CSH 16]
Plant : Total height at maturity	Medium [RS 673]
Panicle : Shape	Panicle broader in upper part [JJ 741]
Caryopsis: Colour after threshing	Yellow-white [Pant Chari 5]
B. Distinct Characteristics: **DGJ-021** has distinguishing characters like grayed purple anthocyanin colour of coleoptiles of seedling, yellow green anthocyanin colouration of leaf sheath, yellow green leaf midrib colour, presence of yellow colour of midrib of flag leaf, presence of stigma yellow colouration and medium total plant height.	

C. Reference varieties: **1. CS 3541:** It has distinguishing characters like yellow green anthocyanin colour of coleoptiles of seedling, yellow green anthocyanin colouration of leaf sheath, yellow green leaf midrib colour, presence of yellow colour of midrib of flag leaf, absence of stigma yellow colouration and short total plant height. **2. AKR 150:** It has distinguishing characters like yellow green anthocyanin colour of coleoptiles of seedling, grayed purple anthocyanin colouration of leaf sheath, white leaf midrib colour, absence of yellow colour of midrib of flag leaf, presence of stigma yellow colouration and short total plant height.

D. Date of commercialization of the variety	Not commercialized.

E. Photograph (s): (See figure 04)

05. Application No. | **N22** | **SB47** | **09** | **357** | filed on **31/08/2009** by **M/S Lakshmikumaran & Sridharan, B 6/10, Safdarjung Enclave, New Delhi – 110 025** on behalf of **Devjen NV, Technologiepark 30, B-9052, Zwijnaarde, Belgium** for a **new plant variety** of crop **Sorghum** [*Sorghum bicolor* L.] having denomination **DGJ-017**, the specification includes its drawing and or photograph(s) of which are given below, has been accepted and given registration number ---------NA--------on -----------NA--------.

The convention application no. -----NA-----, in respect of the said variety has been filed on -----NA------, in ---NA----.

Appropriate office for the opposition of proceeding under Rule 29, of the Protection of Plant Varieties and Farmers' Rights Rules, 2003 is **Office of the Registrar, PPV & FR Authority, New Delhi – 110 012.**

Passport data of the variety DGJ-017:

Applicant : Devjen NV

Address of the Applicant : Technologiepark 30, B-9052,
Zwijnaarde, Belgium

Nationality of Applicant : Indian

Application details

a. Number : | N22 | SB47 | 09 | 357 |

b. Date of receipt : 31/08/2009

c. Date of acceptance : 24/11/2010

Crop (Taxonomical Lineage) : Sorghum [*Sorghum bicolor* L.]

Denomination : DGJ-017

Type of Variety : New

Classification of Variety : Inbred line

Previously proposed denomination : Not applicable

Name of Parental Material : BD 49

Name of Reference Varieties : 296 A and AKMS 14A

Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Kharif or *Rabi* adaptation	*Kharif*
Plant: Time of panicle emergence (50%plants with complete spike emergence)	Medium [CSH 16]
Plant : Total height at maturity	Medium [RS 673]
Panicle : Shape	Panicle broader in upper part [JJ 741]
Caryopsis: Colour after threshing	Yellow-white [Pant Chari 5]

B. Distinct Characteristics:

DGJ-017 has distinguishing characters like grayed purple anthocyanin colour of coleoptiles of seedling, yellow green leaf midrib colour, medium time of panicle emergence, presence of yellow colour midlrib of flag leaf, presence of lemma arista formation, grayed yellow glume colour, medium plant total height, long panicle length without peduncle, semi-loose panicle density at maturity, panicle broader in upper part, short visible length of neck of panicle above sheath, yellow white caryopsis colour after threshing, medium weight of 1000 grains and

lustrous grains.

C. Reference varieties:

1. 296 A: It has distinguishing characters like grayed purple anthocyanin colour of seedling, white leaf midrib colour, medium time of panicle emergence, absence of yellow colour midrib of flag leaf, presence of lemma arista formation, yellow white glume colour, short plant total height, medium panicle length without peduncle, semi-compact panicle density at maturity, panicle symmetric, short visible length of neck of panicle above sheath, grayed white caryopsis colour after threshing, low weight of 1000 grains and non lustrous grains.

2. AKMS 14A: It has distinguishing characters like like yellow green anthocyanin colour of seedling, white leaf midrib colour, early time of panicle emergence, absence of yellow colour midrib of flag leaf, absence of lemma arista formation, green white glume colour, short plant total height, medium panicle length without peduncle, semi-compact panicle density at maturity, panicle reverse symmetric, medium visible length of neck of panicle above sheath, yellow white caryopsis colour after threshing, medium weight of 1000 grains and non lustrous grains.

D. Date of commercialization of the variety	Not commercialized.

E. Photograph (s): (See figure 05)

06. Application No. | **N23** | **SB48** | **09** | **358** | filed on **31/08/2009** by **M/S Lakshmikumaran & Sridharan, B 6/10, Safdarjung Enclave, New Delhi – 110 025** on behalf of **Devjen NV, Technologiepark 30, B-9052, Zwijnaarde, Belgium** for a **new plant variety** of crop **Sorghum** [*Sorghum bicolor* L.] having denomination **DGJ-018**, the specification includes its drawing and or photograph(s) of which are given below, has been accepted and given registration number ---------NA--------on ----------NA--------.

The convention application no. -----NA-----, in respect of the said variety has been filed on -----NA------, in ---NA----.

Appropriate office for the opposition of proceeding under Rule 29, of the Protection of Plant Varieties and Farmers' Rights Rules, 2003 is **Office of the Registrar, PPV & FR Authority, New Delhi – 110 012.**

Passport data of the variety DGJ-018:

Applicant : Devjen NV

Address of the Applicant : Technologiepark 30, B-9052, Zwijnaarde, Belgium

Nationality of Applicant : Indian

Application details

a. Number : **N23** | **SB48** | **09** | **358**

b. Date of receipt : 31/08/2009

c. Date of acceptance : 24/11/2010

Crop (Taxonomical Lineage) : Sorghum [*Sorghum bicolor* L.]

Denomination : DGJ-018

Type of Variety : New

Classification of Variety : Inbred line

Previously proposed denomination : Not applicable

Name of Parental Material : MLSR 188 x MLSR 194

Name of Reference Varieties : CS 3541 and AKR 150

Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Kharif or *Rabi* adaptation	*Kharif*
Plant: Time of panicle emergence (50%plants with complete spike emergence)	Medium [CSH 16]
Plant : Total height at maturity	Short [2219 B]
Panicle : Shape	Panicle broader in upper part [JJ 741]
Caryopsis: Colour after threshing	Grayed-white [Pant Chari 4]

B. Distinct Characteristics:

DGJ-018 has distinguishing characters like yellow green anthocyanin colour of leaf sheath, yellow green leaf midrib colour, presence of yellow colour midlrib of flag leaf, presence of stigma yellow colouration, short anther length, grayed white caryopsis colour after threshing and lustrous grains.

C. Reference varieties:

1. CS 3541: It has distinguishing characters like yellow green anthocyanin colour of leaf sheath, yellow green leaf midrib colour, presence of yellow colour midlrib of flag leaf, absence of stigma yellow colouration, short anther length, yellow white caryopsis colour after threshing and non lustrous grains.

2. AKR 150: It has distinguishing characters like grayed purple anthocyanin colour of leaf sheath, white leaf midrib colour, absence of yellow colour midlrib of flag leaf, presence of stigma yellow colouration, medium anther length, yellow white caryopsis colour after threshing and non lustrous grains.

D. Date of commercialization of the variety	Not commercialized.

E. Photograph (s): (See figure 06)

Hkkjrh; ik/kk fdLe tjuy [kM 05] vad 02 & 03] ekpZ 01] 2011 esa vf/klfpr iR;k'kh fdLeksa ds fp=

Photographs of candidate varieties notified in Plant Variety Journal of India Vol. 05, No. 02 & 03, March 01, 2011

fp= 01:

Figure 01: Pearl Millet: MRB 2210

चित्र 01:
Figure 01a: General view of anther colour

चित्र 01:
Figure 01b: General view of tip sterility

चित्र 01:
Figure 01c: General view of spike shape

fp= 02:

Figure 02: Maize: JK SURABHI

चित्र 02:
Figure 02a: General view of tassel

चित्र 02:
Figure 02b: General view of silk

चित्र 02:
Figure 02c: General view of ear

fp= 03:

Figure 03: Sorghum: DGJ-015

चित्र 03:
Figure 03a: General view of crop

चित्र 03:
Figure 03b: General view of panicle

चित्र 03:
Figure 03c: General view of coleoptile

fp= 04:

Figure 04: Sorghum: DGJ-021

चित्र 04:
Figure 04: General view of crop

fp= 05:

Figure 05: Sorghum: DGJ-017

चित्र 05:
Figure 05: General view of crop

fp= 06:

Figure 06: Sorghum: DGJ-018

चित्र 06:
Figure 06: General view of crop