भारतीय पौधा किस्म जरनल

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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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'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, एस.2, ए ब्लाक, एनएएससी काम्प्लैक्स, 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, S-2 A Block, NASC Complex, DPS Marg, Opp. Todapur Village, New Delhi-110012 under the PPV & FR Act, 2001 and Rule 2 (g) of the PPV & FR Rules, 2003.

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Sl.No. Item Page No.

S.No.	Denomination	Ackn. No.	Crop
1	**Akul-Bal**	Reg/2011/1169	Rice
2	**Tewan Dhan**	Reg/2014/738	Rice
3	**Barabali**	Reg/2014/722	Rice
4	**Neta Kalani**	Reg/2014/754	Rice
5	**Bageri Sona**	Reg/2014/752	Rice
6	**Safed Lalak**	Reg/2014/711	Rice
7	**Lauhonchi (Dehati)**	Reg/2014/740	Rice
8	**Sindoor sal**	Reg/2014/753	Rice

S.No.	Denomination	Ackn. No.	Crop
1	SV-318	Reg/2012/64	Diploid cotton
2	SV-202	Reg/2012/62	Diploid cotton
3	SV-45	Reg/2012/60	Diploid cotton
4	SVH-8	Reg/2012/53	Tetraploid cotton
5	SVG04-2440	Reg/2012/57	Tetraploid cotton
6	SVG04-75	Reg/2012/56	Tetraploid cotton
7	SV-200	Reg/2012/61	Diploid cotton
8	**BCT-3501**	Reg/2008/399	Tetraploid cotton
9	**MHTM-256**	Reg/2011/41	TOMATO
10	**Arka Bold**	Reg/2008/88	Kidney bean

STATUS OF SEED SEND FOR DUS/GOT TESTING IN DUS CENTERS DURING THE MONTH OF JANUARY,2016

CROPS	Category					
	New	**VCK**	**EDV**	**FV**	**FV ***	
Bitter gourd	-	3	-	5	2	
Bottle gourd	-	-	-	4	1	
Pumpkin	-	-	-	1	5	
Cucumber	-	3	-	0	1	
Total		**6**		**10**	**9**	**25**

*** For characterisation and seed multiplication in 2016.**

Quantity of seeds are very less. IARI will characterise and multiply in 2016. During 2017, one lot from these multiplied seed will be sent to IIVR and actual DUS testing will be conducted simultaneously at IARI/IIVR

CORRIGENDUM

It is hereby informed that advertisement for the candidate variety having denomination KSMS 233 of sorghum under new, typical category filed by M/s. Kaveri Seed Company Limited was published in PVJ Volume 4 No.1 in the issue of first January, 2010. In the said advertisement the following was not published inadvertently in the column relating to Distinct Characteristics and accordingly the same may be included which is as follows:-

"Panicle Length without peduncle: Medium"

All other things in the said advertisement remain the same.

Sd/-
R.C. Agrawal
Registrar-General

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 crop specific DUS test guideline namely: Karanj (*Pongamia pinnata* (L.) Pierre), Neem (*Azadirachta indica* A. Juss.) and Aonla *(Embilica officinalis Gaertn.)* is hereby published in 'Plant Variety Journal of India', Vol. 10, No. 02, February 05, 2016. Interested parties may read these guidelines and act accordingly.

Sd/-
(R.C.Agrawal)
Registrar-General

Karanj (*Pongamia pinnata* (L.) Pierre)

I. Subject

These Test Guidelines shall apply to all clonally propagated varieties of Karanj (*Pongamia pinnata* (L.) Pierre)

II. Planting Materials Required

1. The Protection of Plant Varieties and Farmers Rights Authority (PPV & FRA) shall decide on the quantity and quality of the plant material required for testing the variety and when and where it is to be delivered for registration under the Protection of Plant Varieties and Farmers Rights (PPV & FRA) Act, 2001.
2. Applicants submitting such plant 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. Clonally propagated plant materials of 60 cm height from collar to the apical tip are required for DUS testing. The plants must have fully developed root system. The planting material should be supplied in 15 cm x 25 cm container.
4. The minimum number of planting material to be supplied by the applicant or his nominee during June-July shall be 40 clonally rooted plants.
5. The age of the plants shall be 6 months while submitting for testing.
6. The plant material should be visibly healthy, not lacking in vigour or affected by any pests or diseases.
7. The plant material should not have undergone any treatment, which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

III. Conduct of Tests

Duration of test

The minimum duration of DUS tests shall normally up to two independent flowering cycles.

Testing Place

The tests shall normally be conducted at two locations. If any essential characteristics of the candidate variety are 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 expression of interest of the applicant.

Conditions for Conducting the Examination

The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination.

Test Design

The design of the tests should be such that plants or parts of plants may be removed for measurement or counting without prejudice to the observations which must be made up to the end of the growing cycle.

Test plot design

No. of rows: one

Row to row distance: 5 m

Plant to plant distance: 5 m

No. of plants per replication: 6

No. of replications: 3

The test plot will be surrounded by one guard row. Additional test protocol for special purpose shall be established by the PPV & FR Authority.

On-site DUS testing

a. On-site testing shall be conducted at the places specified by the applicant.
b. The age of the trees at on-site shall be minimum of 10 years with the potentiality of exhibiting all morphological and reproductive characters.

c. A trial with minimum of 1 tree shall be considered for on-site testing to provide provisional registration of variety.
d. Once provisional registration with minimum of 1 tree is approved, the registrant must supply 40 clonally propagated planting materials from mother tree (Registered Tree) for regular DUS Testing. The registration will be granted only on the successful testing of clonal progeny as per the procedures laid down in the DUS testing guidelines by the PPV & FR Authority.
e. The trees must be healthy and free from pest and disease and raised under standard management practices.
f. The Expert Committee constituted by the PPV & FRA in consultation with the DUS Centre shall be authorized to inspect on-site testing and recording of the appropriate characters.

IV. Methods and Observations

a. The characteristics described in the Table of characteristics shall be used for testing of varieties for their DUS (Section VII).
b. The assessment of Distinctiveness and Stability of all observations shall be made on 6 plants or parts taken each of 6 plants, which will be equally divided among 3 replications (2 plants per replication).
c. The assessment of Uniformity of characteristics shall be made in 6 plants per replication, with an acceptance probability of at least 95%. The maximum number of off-type allowed would be 1 in 18 plants.
d. All observations of leaf shall be made in mature leaves at middle of the crown in the middle third of the youngest shoots not showing signs of active growth. A sample of 10 leaves per tree (representing all four directions of the tree) shall be taken for morphometric characterization.
e. The branchlet, flower and fruit characteristics should be evaluated from 10 samples each collected from nine trees. Samples should be collected from the longest primary branch in the mid portion of the crown.
f. Observations on the inflorescences should be made at the time of peak flowering on inflorescences borne on typical shoots from the exposed regions of the tree.

g. Observations on mature fruit should be recorded when the fruit is ready for harvesting.
h. Observations on seeds should be made on 10 typical seeds taken from a minimum sample size of 50 fully developed seeds.
i. For the assessment of all colour characteristics, the latest Royal Horticultural Society (RHS) colour chart shall be used.

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 to vary only slightly, within a variety and which in their various states are fairly evenly distributed across all the varieties in the collection are suitable for grouping purpose.

2. The following characteristics shall be used for grouping of Karanj varieties:
   a) Tree habit (Characteristics 1.1)
   b) Stem type (Characteristics 2.1)
   c) Leaflet shape (Characteristics 3.5)
   d) Terminal leaflet: Shape (Characteristics 3.6)
   e) Terminal leaflet Apex (Characteristics 3.7)
   f) Terminal leaflet Base (Characteristics 3.8)
   g) Flower colour (Characteristics 4.1)
   h) Pod colour (Characteristics 5.3)
   i) Pod flatness (Characteristics 5.4)
   j) Pod shape (Characteristics 5.5)
   k) Pod tip (Characteristics 5.6)
   l) Pod margin (Characteristics 5.7)
   m) Seed colour (Characteristics 6.3)
   n) Seed shape (Characteristics 6.4)

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 (**a** to **i**) shall be given for each state of expression for different characteristics for the purpose of electronic data processing.
3. Legend:

i) (*) 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 the environmental conditions of the testing region. Under such exceptional situation, adequate explanation shall be provided.

ii) (+) See Explanation on the Table of characteristics 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 the colour variation.

4. A decimal code in the sixth column of Table of Characteristics indicates the stage for the observation of each characteristic during the growth and development of the variety. The relevant growth stages corresponding to the decimal code number are described below.

Code	Examination of Characteristics	Stage of Observation
1	**Tree crown character**	a. The observation on the tree habit was made when the entire tree is found with foliage. b. Observations on the tree habit were made on mature trees with a fully developed trunk and crown with complete foliage of atleast 5 years of age capable of exhibiting all morphological and reproductive characters. c. Observations on the stem type were made on mature trees with a fully developed trunk and crown.
2	**Leaf character**	a. All the observations on leaf/terminal leaflet were made on fully developed leaves from admist of vigorous current season shoots occupying the peripheral/circumference of tree crown. b. All observations for length and width on the mature leaf and leaflets were made on the central part of leaf/leaflet. c. All observations for length of petiole and rachis were made on the mature leaf. d. Observations on leaflet inter-vein were made on fully developed leaves of current season shoot.
3	**Inflorescence character**	a. Observations on the flowers were taken from the fully developed inflorescence at the beginning of anther dehiscence and also at the time of full flowering of the tree.

		b. Observations on the flowers were made on the second and subsequent flowers present in the inflorescence stage as described in the item 3a. c. Observations on the flower colour were made at peak flowering stage under natural day light condition.
4	**Pod character**	a. All pods for observation were taken from periphery of the tree and pods misformed as a result of clustering were not sampled. b. Observations on the pods were made on 10 typical pods taken from a minimum sample size of 50 pods at the time of full maturity. c. Observations on the pod shape were presented as they appear in nature; nevertheless shape is to be observed in direction from the base (stalk end) to the top. d. All observations for length and width on the mature pod were made on the longest and broadest portion of the pod respectively.
5	**Seed character**	a. All observations on the seeds were made on the fresh matured seed in fruits at full maturity stage. b. Observations on the seed length/width were made on 10 typical seeds taken from a minimum sample size of 50 fully developed seeds. c. Observations on the seed colour were made under natural day light condition. d. Observation on the seed shape was made on fully mature seeds.

5. Characteristics containing the following key in the first column of the table of characteristics shall be examined as indicated below

   QL: Qualitative characteristics

   QN: Quantitative characteristics

   PQL: Pseudo - qualitative characteristics

6. Type 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 parts plants

VS: Visual assessment by observation of individual plants or parts of plants.

VII. Table of Characteristics

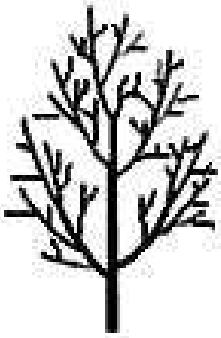
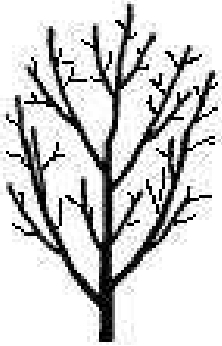
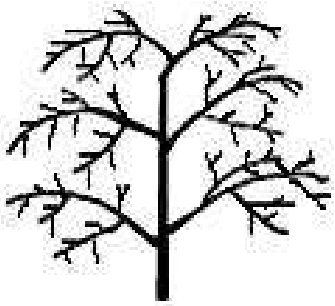
S.No.	Characteristics	State	Note	Example Source	Stage of observation	Type of assessment
1 (+)	Tree habit **(PQL)**	Semi-upright	1	Mettupalayam 5	1b	VG
		Upright	2	Sirumugai		
		Drooping	3	Sathyamangalam		
2 (*)	Stem type **(QL)**	Single stem	1	Mettupalayam 4	1c	VG
		Multi stem	9	Paiyur		
3 (*)	Leaflet: Length **(QN)**	Short (< 6 cm)	3	Kallipatti	2b	MG
		Medium (6-12 cm)	5	Bhavani		
		Long (> 12 cm)	7	Annur		
4 (*)	Leaflet: Width **(QN)**	Narrow (< 3 cm)	3	Kallipatti	2b	MG
		Medium (3-6 cm)	5	Sirumugai		
		Broad (> 6 cm)	7	Athani		
5 (*)	Petiole length **(QN)**	Short (<3.0 cm)	3	Mettupalayam 1	2c	MG
		Medium (3.0-6.0 cm)	5	Paiyur		
		Long (>6.0 cm)	7	Mettupalayam 8		
6 (*)	Inter leaflet: Rachis length **(QN)**	Short (<3.0 cm)	3	Mettupalayam 1	2c	MG
		Medium (3.0- 5.0 cm)	5	Bhavani		
		Long (>5.0 cm)	7	Mettupalayam 8		
7 (+)	Leaflet shape **(PQL)**	Ovate	1	Annur	2a	VG
		Elliptical	2	Dindigul		
8 (+)	Terminal leaflet: Shape **(PQL)**	Deltoid	1	Ammapettai	2a	VG
		Orbiculate	2	T.N.Palayam		
		Lanceolate	3	D.G.Pudur		
		Obovate	4	Kasipalayam		
		Elliptic	5	Alangombu		
		Ovate	6	Mettupalayam 7		
9 (+)	Terminal leaflet: Apex **(PQL)**	Acute	1	Mettupalayam 7	2a	VG
		Acuminate	2	Alangombu		
		Cuspidate	3	Mettupalayam 10		
		Mucronate	4	Kavindhapadi		

10 (+)	Terminal leaflet: Base **(PQL)**	Cuneate	1	Kasipalayam	2a	VG
		Oblique	2	Mettupalayam 6		
		Rounded	3	Mettupalayam 7		
		Truncate	4	Puliampatti		
11 (*)	Leaflet: No. of primary veins **(QL)**	Sparse (>5)	1	Mettupalayam 5	2d	VS
		Medium Dense (5-7)	3	D.G.Pudur		
		Dense (>7)	5	Mettupalayam 6		
12	Flower colour **(PQL)**	Pinkish white	1	Mettupalayam 2	3c	VG
		Whitish Yellow	2	Trichy		
[13] (*)	Pod length **(QN)**	Short (< 3 cm)	3	Mettupalayam 1	4b	MG
		Medium (3-6 cm)	5	D.G.Pudur		
		Long (> 6 cm)	7	Mettupalayam 8		
14 (*)	Pod width **(QN)**	Narrow (< 1.8 cm)	3	Mettupalayam 1	4b	MG
		Medium (1.8-2.5 cm)	5	Ayyansalai		
		Broad (> 2.5 cm)	7	Mettupalayam 8		
15 (*)	Pod colour **(PQL)**	Brown	1	Mettupalayam 3	4d	VG
		Yellowish grey	2	Ayyansalai		
16 (*)	Pod flatness **(QL)**	Flat	1	Mettupalayam 10	4b	VG
		Slightly swollen	2	D.G.Pudur		
		Swollen	3	Mettupalayam 9		
17 (+)	Pod shape **(PQL)**	Elliptic	1	Kallipatti	4c	VG
		Oblong	2	Mettupalayam 2		
18 (+)	Pod tip: Curvature of beak **(QL)**	Curved	1	Sirumugai	4b	VS
		Slightly curved	2	Sathyamangalam		
		Straight	3	Bhavanisagar		
19 (+)	Pod margin **(QL)**	Convex	1	Athani	4b	VG
		Concave	2	Anukuli		
[20] (*)	Seed length **(QN)**	Short (< 1.8 cm)	3	Mettupalayam 1	5b	MG
		Medium (1.8-2.5 cm)	5	Mettupalayam 11		
		Long (> 2.5 cm)	7	Mettupalayam 8		
21 (*)	Seed width **(QN)**	Narrow (< 1.0 cm)	3	Mettupalayam 1	5b	MG
		Medium (1.0-1.5 cm)	5	Mulaivaikal		
		Broad (> 1.5 cm)	7	Mettupalayam 8		
22 (*)	Seed colour **(PQL)**	Reddish brown	1	Mulaivaikal	5c	VG
		Light Brown	2	Maranur		

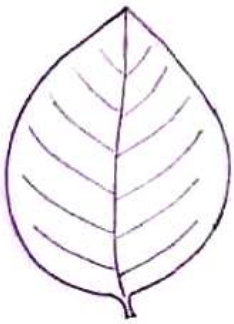
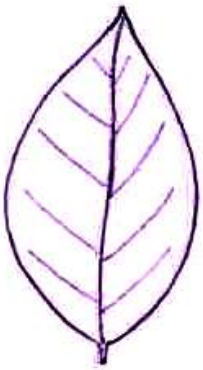
		Brown	3	Mettupalayam 3		
23 (+)	Seed shape **(PQL)**	Ovate	1	Maranur	5d	VG
		Oblong	2	Mulaivakal		
		Reniform	3	Mettupalayam 3		

VIII. Explanations on the table of characteristics

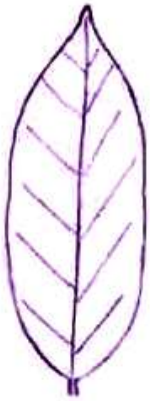
Characteristic 1: Tree habit

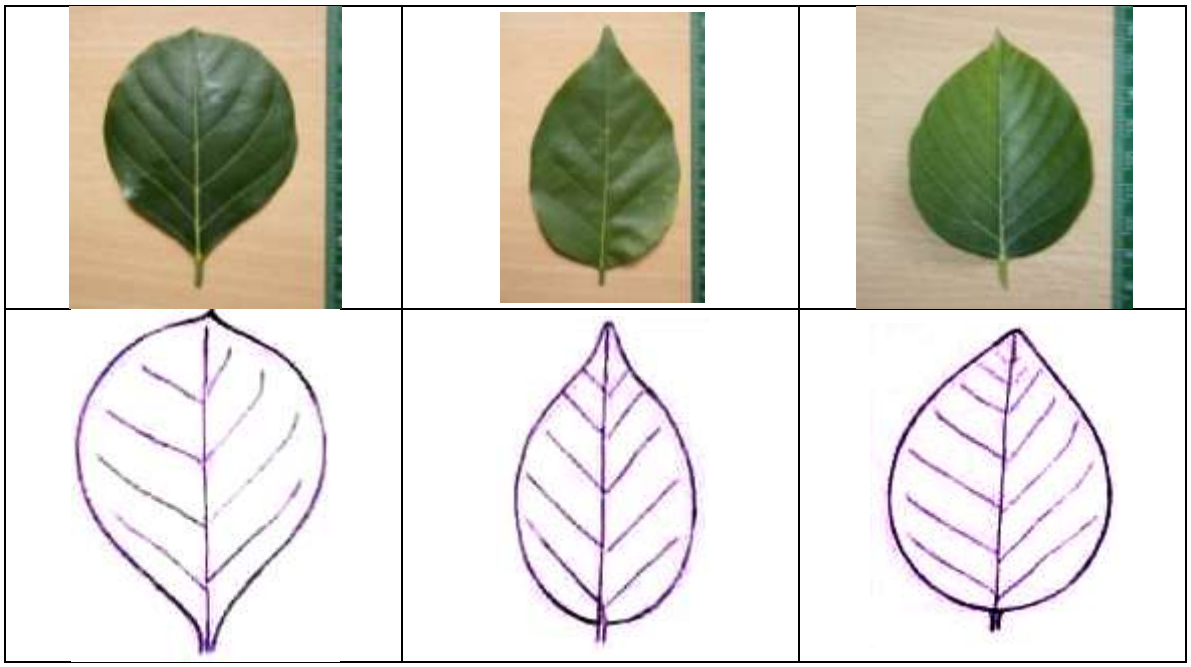
1 Semi-upright	2 Upright	3 Drooping
		
		

Characteristic 7: Leaflet shape

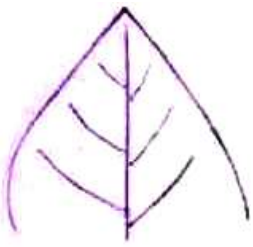
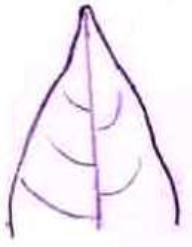
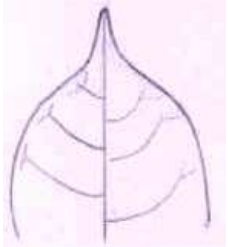
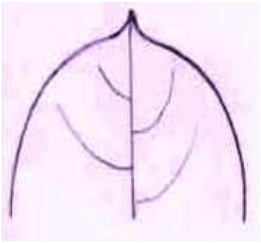
1 Ovate		2 Elliptical	
			

Characteristic 8: Terminal leaflet: Shape

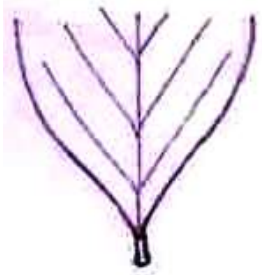
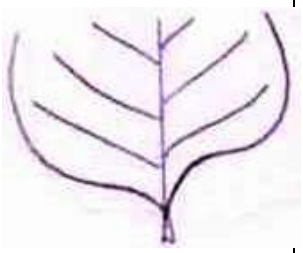
1 Deltoid	2 Orbiculate	3 Lanceolate
		
		
4 Obovate	5 Elliptic	6 Ovate



Characteristic 9: Terminal leaflet apex

1 Acute	2 Acuminate	3 Cuspidate	4 Mucronate
			
			

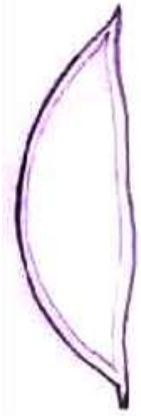
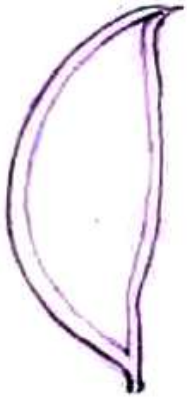
Characteristic 10: Terminal leaflet base

1 Cuneate	2 Oblique	3 Rounded	4 Truncate
			
			

Characteristic 17: Pod shape

1 Elliptic		2 Oblong	
			

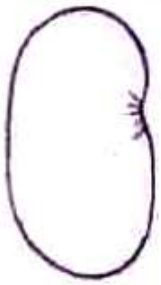
Characteristic 18: Pod tip: Curvature of beak

1 Straight	2 Slightly curved	3 Curved
		
		

Characteristic 19: Pod margin

1 Concave		2 Convex	
			

Characteristic 23: Seed shape

1 Oval	2 Oblong	3 Reniform
		
		

IX. Working Group Details:

The Test Guidelines developed by Forest College and Research Institute, Tamil Nadu Agricultural University, Mettupalayam was approved by the Task Force (03/2014) constituted by the PPV & FR Authority.

The Members of the Task Force (03/2014)

Dr.B.Gurudev Singh	Chairman
Dr. Balakrishna Gowda	Member
Dr.K.Kumaran	Member
Dr.A.Balasubramanian	Member
Dr.Ravi Prakash	Member Secretary
Dr.N.A.Prakash	Special Invitee

Nodal Officer

Dr.A.Balasubramanian, Professor (Forestry),
Forest College and Research Institute, Tamil Nadu Agricultural University,
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Co-Nodal Officers

1) Dr.S.Radhakrishnan,
   Forest College and Research Institute, Tamil Nadu Agricultural University,
   Mettupalayam (Tamil Nadu)

2) Dr.K.T.Parthiban,
   Forest College and Research Institute, Tamil Nadu Agricultural University,
   Mettupalayam (Tamil Nadu)

3) Dr.K.K.Suresh,
   Forest College and Research Institute, Tamil Nadu Agricultural University,
   Mettupalayam (Tamil Nadu)

X. DUS testing centre

Nodal Centre	Co-Nodal Centre
Forest College and Research Institute, Tamil Nadu Agricultural University, Mettupalayam, Coimbatore (Dt), Tamil Nadu.	

NEEM (*Azadirachta indica* A. Juss.)

I. Subject

These Test Guidelines shall apply to all clonally propagated varieties of Neem (*Azadirachta indica* A. Juss.)

II. Planting Materials Required

1. The Protection of Plant Varieties and Farmers Rights Authority (PPV & FRA) shall decide on the quantity and quality of the plant material required for testing the variety and when and where it is to be delivered for registration under the Protection of Plant Varieties and Farmers Rights (PPV & FRA) Act, 2001.
2. Applicants submitting such plant 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. Clonally propagated plant materials of 60 cm height from collar to the apical tip are required for DUS testing. The plants must have fully developed root system. The planting material should be supplied in 15 cm x 25 cm container.
4. The minimum number of planting material to be supplied by the applicant or his nominee during June-July shall be 40 clonally rooted plants.
5. The age of the plants shall be 6 months while submitting for testing.
6. The plant material should be visibly healthy, not lacking in vigour or affected by any pests or diseases.
7. The plant material should not have undergone any treatment, which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

III. Conduct of Tests

Duration of test

The minimum duration of DUS tests shall normally up to two independent flowering cycles.

Testing Place

The tests shall normally be conducted at two locations. If any essential characteristics of the candidate variety are 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 expression of interest of the applicant.

Conditions for Conducting the Examination

The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination.

Test Design

The design of the tests should be such that plants or parts of plants may be removed for measurement or counting without prejudice to the observations which must be made up to the end of the growing cycle.

Test Plot Design

No. of rows	: one
Row to row distance	: 5 m
Plant to plant distance	: 5 m
No. of plants per replication	: 6
No. of replications	: 3

The test plot will be surrounded by one guard row. Additional test protocol for special purpose shall be established by the PPV & FR Authority.

On-site DUS testing

a. On-site testing shall be conducted at the places specified by the applicant.
b. The age of the trees at on-site shall be minimum of 10 years with the potentiality of exhibiting all morphological and reproductive characters.
c. A trial with minimum of 1 tree shall be considered for on-site testing to provide provisional registration of variety.
d. Once provisional registration with minimum of 1 tree is approved, the registrant must supply 40 clonally propagated planting materials from mother tree (Registered Tree) for

regular DUS Testing. The registration will be granted only on the successful testing of clonal progeny as per the procedures laid down in the DUS testing guidelines by the PPV & FR Authority.

e. The trees must be healthy and free from pest and disease and raised under standard management practices.
f. The Expert Committee constituted by the PPV & FRA in consultation with the DUS Centre shall be authorized to inspect on-site testing and recording of the appropriate characters.

IV. Methods and Observations

a. The characteristics described in the Table of characteristics shall be used for testing of varieties for their DUS (Section VII).
b. The assessment of Distinctiveness and Stability of all observations shall be made on 6 plants or parts taken each of 6 plants, which will be equally divided among 3 replications (2 plants per replication).
c. The assessment of Uniformity of characteristics shall be made in 6 plants per replication, with an acceptance probability of at least 95%. The maximum number of off-type allowed would be 1 in 18 plants.
d. All observations of leaf shall be made in mature leaves at middle of the crown in the middle third of the youngest shoots not showing signs of active growth. A sample of 10 leaves per tree (representing all four directions of the tree) shall be taken for morphometric characterization.
e. The branchlet, flower and fruit characteristics should be evaluated from 10 samples each collected from nine trees. Samples should be collected from the longest primary branch in the mid portion of the crown.
f. Observations on the inflorescences should be made at the time of peak flowering on inflorescences borne on typical shoots from the exposed regions of the tree.
g. Observations on mature fruit should be recorded when the fruit is ready for harvesting.
h. Observations on seeds should be made on 10 typical seeds taken from a minimum sample size of 50 fully developed seeds.
i. For the assessment of all colour characteristics, the latest Royal Horticultural Society (RHS) colour chart shall be used.

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 to vary only slightly, within a variety and which in their various states are fairly evenly distributed across all the varieties in the collection are suitable for grouping purpose.

2. The following characteristics shall be used for grouping of Neem varieties:
    a. Leaflet shape (Characteristics 2.5)
    b. Flower: Petals shape (Characteristics 3.1)
    c. Fruit shape (Characteristics 4.3)
    d. Fruit: Shape of apex (Characteristics 4.4)
    e. Seed: Shape (Characteristics 5.3)
    f. Seed: Tip (Characteristics 5.4)

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 given for each state of expression for different characteristics for the purpose of electronic data processing.
3. Legend:

i. (*) 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 the environmental conditions of the testing region. Under such exceptional situation, adequate explanation shall be provided.

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

4. A decimal code in the sixth column of the Table of Characteristics indicates the stage for the observation of each characteristic during the growth and development of the variety. The relevant growth stages corresponding to the decimal code number are described below.

Code	Examination of Characteristics	Stage of Observation
1.	**Tree crown character**	a. The observation on the tree habit was made when the entire tree is found with foliage. b. Observations on the tree habit were made on mature trees with a fully developed trunk and crown with complete foliage of atleast 5 years of age capable of exhibiting all morphological and reproductive characters.
2.	**Leaf character**	a. All the observations on leaf were made on fully developed leaves from admits of vigorous current season shoots occupying the peripheral/circumference of tree crown. b. All observations for length and width on the mature leaf and leaflets were made on the central part of leaf/leaflet. c. All observations for length of petiole and rachis were made on the mature leaf.
3.	**Inflorescence character**	a. Observations on the flowers were taken from the fully developed inflorescence at the beginning of anther dehiscence and also at the time of full flowering of the tree. d. Observations on the flowers were made on the second and subsequent flowers present in the inflorescence stage as described in the item 3a. b. Observations on the flower colour were made at peak flowering stage under natural day light condition.
4.	**Fruit character**	a. All fruits for observation were taken from periphery of the tree and fruit misformed as a result of clustering were not sampled. b. Observations on the fruits were made on 10 typical fruits taken from a minimum sample size of 50 fruits at the time of full maturity. c. Observations on the fruit shape were presented as they appear in nature; nevertheless shape is to be observed in direction from the base (stalk end) to the top. d. All observations for length and width on the mature fruit were made on the longest and broadest portion of the fruit respectively.
5.	**Seed character**	a. All observations on the seeds were made on the fresh matured seed in fruits at full maturity stage. b. Observations on the seed length/width were made on 10 typical seeds taken from a

		minimum sample size of 50 fully developed seeds. c. Observations on the seed colour were made under natural day light condition. d. Observation on the seed shape was made on fully mature seeds. e. Observation on oil and azadirachtin content were made on kernel basis from 50 typical seeds taken from a minimum sample size of 500 fully developed seeds.

5. Characteristics containing the following key in the first column of the table of characteristics shall be examined as indicated below

   QL: Qualitative characteristics

   QN: Quantitative characteristics

   PQL: Pseudo - qualitative characteristics

6. Type of assessment of characteristics indicated in column seven of Table the 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 parts plants

   VS: Visual assessment by observation of individual plants or parts of plants.

VII. Table of Characteristics

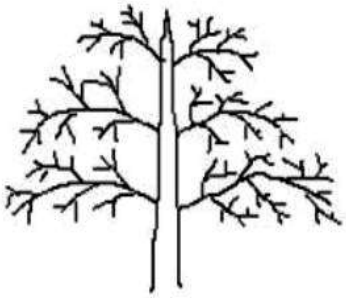
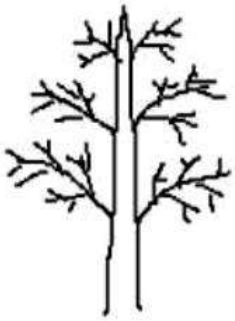
S.No.	Characteristics	State	Note	Example Source	Stage of observation	Type of assessment
1 (*)	Tree habit **(PQL)**	Spreading	1	Mettupalayam	1b	VG
		Semi-upright	2	Bhavanisagar		
		Upright	3	Sirumugai		
2 (*)	Leaflet length **(QN)**	Short (<5.0 cm)	3	Mulli	2b	MG
		Medium (5.0 -10 cm)	5	Dharmapuri		
		Long (>10.0 cm)	7	Kovilpatti		
3 (*)	Leaflet width **(QN)**	Narrow (<1.5 cm)	3	Annur, Pillur	2b	MG
		Medium (1.5-3.0 cm)	5	Dharmapuri		

		Broad (>3.0 cm)	7	Pudukottai		
4 (*)	Petiole: Length **(QN)**	Very short (<4.0 cm)	1	Mulli	2c	MG
		Short (4.1 - 8.0 cm)	3	Karamadai		
		Medium (8.1-12.0 cm)	5	Pudukottai		
		Long (>12.0 cm)	7	Kovilpatti		
5 (*)	Inter Leaflet: Rachis Length **(QN)**	Very short (<2.0 cm)	1	Mulli	2c	MG
		Short (2.0 - 3.0 cm)	3	Karamadai		
		Medium (3.1- 4.0 cm)	5	Virudhunagar		
		Long (4.1 - 5.0 cm)	7	Pudukottai		
		Very long (>5.0 cm)	9	Kovilpatti		
6 (+)	Leaflet shape **(PQL)**	Falcate	1	Thiruchirapalli	2a	VG
		Lanceolate	2	Sivagangai		
7 (+)	Leaf margin: Serration **(QL)**	Serrate	1	Bhavanisagar	2a	VS
		Dentate	9	Mulli		
8 (+)	Petals shape **(PQL)**	Spatulate	1	Mettupalayam	3a	VG
		Obovate	2	Salem		
9 (*)	Fruit length **(QN)**	Short (<1.5 cm)	3	Mulli	4b	MG
		Medium (1.5-2.0 cm)	5	Bhavani		
		Long (>2.0 cm)	7	Pudukottai		
10 (*)	Fruit width **(QN)**	Narrow (<1.0 cm)	3	Mulli	4b	MG
		Medium (1.0-1.5 cm)	5	Palladam		
		Broad (>1.5 cm)	7	Kovilpatti		
11 (+)	Fruit shape **(PQL)**	Oblong	1	Coimbatore	4c	VG
		Oval	2	Annur, Madurai		
		Globular	3	Erode, Musri		
12 (+)	Fruit: Apex **(PQL)**	Round	1	Annur	4c	VG
		Acute	2	Kavindhapadi		
13 (+)	Fruit: Stalk cavity **(QL)**	Absent	1	Gobi	4a	VG
		Present	9	Arupukottai		
14 (+)	Presence of neck **(QL)**	Absent	1	Arupukottai	4a	VG
		Present	9	Paiyur		

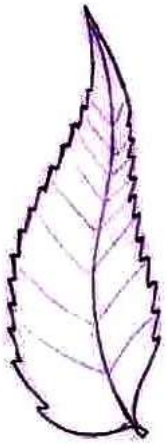
15 (+)	Presence of fruit shoulder **(QL)**	Absent	1	Bhavani	4a	VG
		Present	9	Athani		
16 (*)	Seed length **(QN)**	Short (<1.0 cm)	3	Mulli	5b	MG
		Medium (1.0-1.5 cm)	5	Athani		
		Long (>1.5 cm)	7	Manamadurai		
17 (*)	Seed width **(QN)**	Narrow (<0.5 cm)	3	Mulli	5b	MG
		Medium (0.5-0.8 cm)	5	Dharapuram		
		Broad (>0.8 cm)	7	Manamadurai		
18 (+)	Seed shape **(PQL)**	Oblong	1	Karamadai	5a	VG
		Ovate	2	Athani		
19 (+)	Seed tip shape **(PQL)**	Acute	1	Dindigul	5a	VG
		Obtuse	2	Mettupalayam		
20 **(*)**	Oil content **(QN)**	Low (<36%)	3	MTP - 2	5e	MG
		Medium (36% - 41%)	5	MDU - 1 MDU - 2 MDU - 6		
		High (41% - 45%)	7	APK -1 APK - 2 MDU - 3 MDU - 5 MDU -7 MDU - 8		
		Very High (> 45%)	9	F15L26T22 (Jhansi)		
21 (*)	Azadirachtin content **(QN)**	Low (<0.30%)	3	MDU -3	5e	MG
		Medium (0.30% -0.60%)	5	MTP - 1 APK - 4 APK - 6 MDU - 2 MDU - 6 MDU - 8		
		High (>0.60%)	7	MTP - 2		

VIII. Explanations on the Table of Characteristics

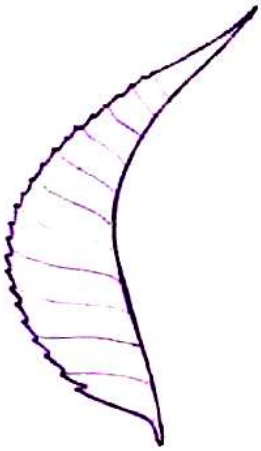
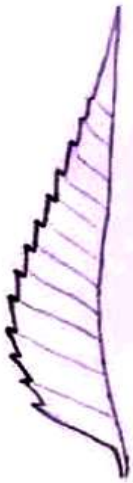
Characteristic 1: Tree habit

1 Spreading	2 Semi-upright	3 Upright
		
		

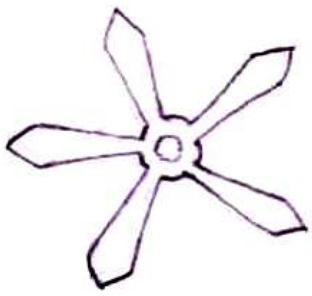
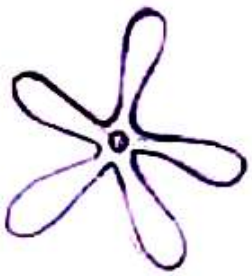
Characteristic 6: Leaflet shape

1 Falcate		2 Lanceolate	
			

Characteristic 7: Leaf margin

1 Serrate		9 Dentate	
			

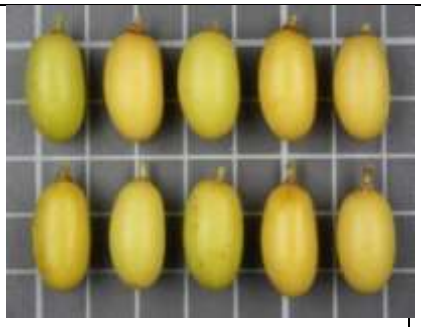
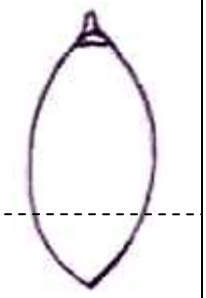
Characteristic 8: Petals shape

1 Spatulate	2 Obovate
	
	

Characteristic 11: Fruit shape

1 Oblong	2 Oval	3 Globular
		
		

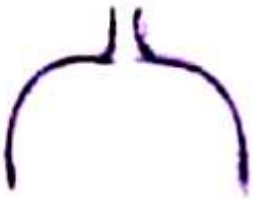
Characteristic 12: Fruit: Apex

1 Round		2 Acute	
			

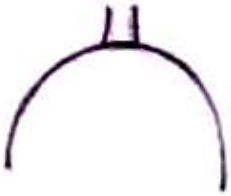
Characteristic 13: Fruit: Stalk cavity

1 Absent	9 Present
	
	

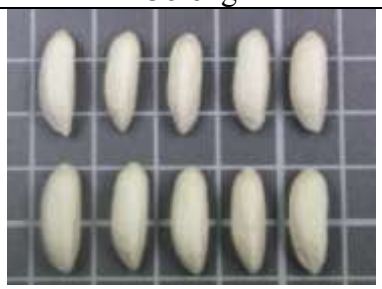
Characteristic 14: Presence of fruit neck

1 Absent	9 Present
	
	

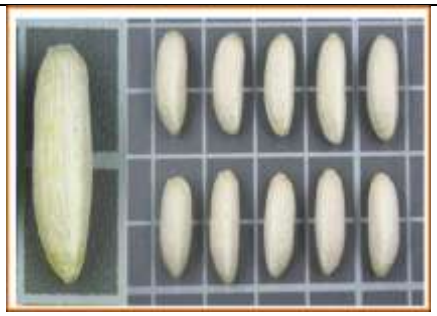
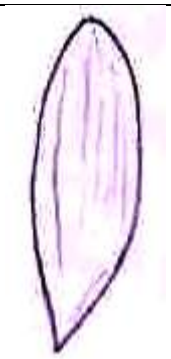
Characteristic 15: Presence of fruit shoulder

1 Absent	9 Present
	
	

Characteristic 18: Seed shape

1 Oblong	2 Ovate
	
	

Characteristic 19: Seed tip shape

1 Acute	2 Obtuse
	
	

IX. Working Group Details:

The Test Guidelines developed by Forest College and Research Institute, Tamil Nadu Agricultural University, Mettupalayam was approved by the Task Force (03/2014) constituted by the PPV & FR Authority.

The Members of the Task Force (03/2014)

Dr.B.Gurudev Singh	Chairman
Dr. Balakrishna Gowda	Member
Dr.K.Kumaran	Member
Dr.A.Balasubramanian	Member
Dr.Ravi Prakash	Member Secretary
Dr.N.A.Prakash	Special Invitee

Nodal Persons

Dr.A.Balasubramanian, Professor (Forestry),
Forest College and Research Institute, Tamil Nadu Agricultural University,
Mettupalayam (Tamil Nadu)

Co-Nodal Persons

1) Dr.S.Radhakrishnan,
   Forest College and Research Institute, Tamil Nadu Agricultural University,
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   Mettupalayam (Tamil Nadu)

3) Dr.K.K.Suresh,
   Forest College and Research Institute, Tamil Nadu Agricultural University,
   Mettupalayam (Tamil Nadu)

X. DUS testing centre

NODAL CENTRE	**CO-NODAL CENTRE**
Forest College and Research Institute, Tamil Nadu Agricultural University, Mettupalayam, Coimbatore (Dt), Tamil Nadu.	

Indian gooseberry (*Emblica officinalis* Gaertn)

I. Subject

These test guidelines shall apply to all varieties and hybrids of Aonla *(Embilica officinalis Gaertn.).*

II. Planting material required

1. The Protection of Plant Varieties and Farmers' Rights Authority (PPV & FRA) Shall decide on the quantity and quality of the planting material(s) required for testing the variety and when and where it is to be delivered for registration under the Protection of Plant Varieties and Farmers' Rights (PPV & FRA) Act, 2001. Applicants submitting such planting material(s) 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 number of planting material to be supplied by the applicants or his/her nominee/assignee during August-September shall be 07 (seven) for each DUS Test Centre.
2. The planting materials supplied shall be healthy, not lacking in vigour or Nutrition as well as free from pests or diseases or any mechanical damage. The age of the plant(s) shall be minimum 03-04 months from the date of grafting(propagated through grafting) raised in the polythene bags (25 cm x 10 cm size) with potting mixture (2:2:1 v/v of loam soil, compost and fine sand).
3. The planting material(s) shall not have undergone any treatment (chemical/bio-physical or others) which would affect the expression of the characteristics of the variety, unless the Competent Authority allow or request for such treatment. If it has been treated, full details of the treatment must be given.

III. Conduct of tests

1. The minimum duration of the tests shall normally be at least two independent similar fruiting seasons in different years.

2.Tests shall be conducted at least at two places. If any essential characteristic of the candidate variety are 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 by the applicant for which additional quantity of planting material shall be required.

3.The tests should be carried out under favourable conditions ensuring normal growth for the expression of the relevant characteristics of the variety and for the conduct of the tests. In particular, it is essential that the plants produce a satisfactory crop of fruit in each of the two growing cycles.

2. **Test plot design**

The design of the tests should be such that plants or parts of plants may be removed for measurement or observation without prejudice to the observations which must be made up to the end of the growing cycle. The additional test protocol for special purpose may be established by PPV & FRA. As a minimum, each test shall include five plants per location, planted at DUS test centre with a spacing of 8m x 8m.

3. The additional test protocol for special purpose may be established by PPV & FRA.

4. ***On-site DUS testing***

- The applicant or his/her nominee on his/her behalf shall submit a request to the Authority for conducting a reliable trial according to Test Guidelines and the instructions from Authority before on-site examination of the candidate variety.
- The applicant or his/her nominee shall submit a request to the Authority for on-site examination prior to start of growing cycle as mentioned in Test Guidelines for site examination of the candidate variety.
- On-site testing may be conducted at the places specified by the applicant. The age of the trees at on-site shall be minimum 3 years.
- As a minimum, 05 trees planted in uniform spacing (8x8m) should be available for inspection and examination for 'on site' DUS testing. The trees must be healthy and free from pest & disease and raised under standard management practices. For farmer's variety or landraces, the authority may notify suitable guidelines on the number of plant(s) and season(s), if any.
- On-site examination shall be arranged during the fruiting season, when distinguishing characteristics of candidate variety can most easily be seen. The characteristics of the candidate variety can be examined and compared with those of the comparative varieties as per the Test guidelines.
- The Expert Committee constituted by the PPV & FRA in consultation with the DUS Centre shall be authorized to inspect on-site testing and recording of the appropriate characters. Applicant shall supply the Expert Committee with summary of distinct characteristics supported by photographs.
- The Expert Committee shall take notes and observations on distinctness and shall confirm preliminary data and/or summary of distinctness from applicant.
- The Expert Committee shall submit examination report to the Authority.

IV. Methods and observations

The characteristics described in the Table of characteristics (see section7) shall be used for the testing varieties and hybrid for their DUS.

1. For the assessment of Distinctiveness and Stability observation shall be made on 5 plants or parts taken from each of 5 plants. In the case of parts of plants, the number to be taken from each of the plants should be 2.
2. Fully mature leaves, not showing the sign of active growth, in the middle of tertiary branches should be selected for the observations on the leaf.
3. Observations on the mature fruit should be recorded at harvest maturity.
4. For assessment of all colour characteristics, the Royal Horticultural Society (RHS) colour chart shall be used.

V. Grouping of varieties

1. The candidate varieties for DUS testing shall be divided into groups to facilitate the assessment of Distinctiveness and Characteristics, which are known from experience not to vary, or to vary only slightly within a variety and which in their various states are fairly evenly distributed across all varieties in the collection are suitable for grouping purpose.

The following characteristics are to be used for grouping *Aonla* varieties:

a. Growth habit (Characteristic2)

b. Leaf: Shape (Characteristic 5)

c. Inflorescence colour (Characteristic 10)

d. Mature fruit: Shape (Characteristic 12)

e. Mature fruit: Colour (Characteristic 13)

f. Stone shape (Characteristic 18)

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 (l to 9) shall be given for each state of expression for different characteristics for the purpose of electronic 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 on the Table of characteristics 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 the colour variation.

4. 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 by a single observation 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.

5. A code number in the sixth column of Table of characteristics indicates the optimum stage for the observation of each characteristic during the growth and development of plant. The relevant growth stages corresponding to these code numbers are described below:

a) Observation on growth habit, shoot surface and leaf characters should be recorded three months after pruning, when canopy attains its characteristic shape. Fully mature leaves, not showing the sign of active growth, in the middle of tertiary branches should be selected for the observations on the leaf.

b) Observation on immature fruit should be recorded when fruit has not attained its full size and is predominantly green and quite hard in texture.

c) Observations on the mature fruit and stone should be recorded when fruit is ready for harvesting.

VII. Table of characteristics

S.No.	Characteristics	State	Note	Example variety	Stage of observation	Type of assessment
1	2	3	4	5	6	7
1 (*)	Tree height	Dwarf	2	Narendra Aonla-6, Banarasi, Krishna, Chakaiya, Francis, Goma Aishwarya	A	VG
		Tall	1	Kanchan, Narendra Aonla -7, Anand-1, Anand-2 Narendra Aonla-10		
2 (*) (+)	Growth Habit	Erect	3	NA-6,Chakaiya, Anand-1,Anand-2	A	VG
		Spreading	5	Narendra Aonla-10,NA-7, Francis, Goma Aishwarya		
		Drooping	7	Banarasi, Krishna, Kanchan,		
3. (*)	Foliage	Sparse	3	Banarasi,Krishna, Chakaiya, Kanchan, Anand-1, Anand-2, NA-6	A	VG
		Dense	5	Francis, Narendra Aonla-10,Narendra Aonla-7, Goma Aishwarya		
4 (*)	Leaf size	Small (<1.25 cm)	1	Narendra Aonla-7,Krishna, Francis, Anand-1, Anand-2,	A	MS
		Large>1.35 cm	5	Chakaiya, Narendra Aonla-10,Narendra Aonla-7		
5 (+) (*)	Leaf shape	Elliptical	3	Narendra Aonla-7	A	VG
		Oblong	5	Chakaiya, Banarasi, Chakaiya, Narendra Aonla-10, Anand-1, Anand-2		
		Oval	7	Francis, Kanchan, Narendra Aonla-6, Goma Aishwarya		
6. (*) (+)	Leaf apex	Acute	1	Narendra Aonla-6, Chakaiya, Kanchan	A	VG
		Obtuse	7	Banarasi, Krishna, Francis, Narendra Aonla-7, Narendra Aonla-10, Anand-1, Anand-2		
7. (*)	Leaf Surface	Non glabrous	9	Narendra Aonla-7, Banarasi, Krishna	A	VG
		Glabrous	1	NarendraAonla-6, Kanchan, Francis		
8.	Trunk colour	Grey(197 A)	1	Chakaiya, Banarasi, Francis,	a	RHS

(*)				Anand-1, Anand-2		
		Whitish grey(199 B)	2	Narendra Aonla-7, Kanchan, Narendra Aonla-10,Goma Aishwarya,Krishna		
		Brownish grey(202 B)	3	Narendra Aonla-6		
9. (*)	Branchlet Colour	Deep red(181 A)	3	Banarsi	a	RHS
		Pinkish green(149A)	5	NarendraAonla-6		
		Yellowish green(144 B)	7	NarendraAonla-10		
10. (*) +	Inflorescence colour	Deep pink(47C)	3	Krishna, Banarasi, Narendra Aonla-10,NA-7	a	RHS
		Pinkish green(149 A)	5	NA-6, Chakaiya,Anand-2, Anand-1,		
		Yellowish green(147A)		Francis, Goma Aishwarya, Kanchan		
11(*)	Fruit surface	Smooth	1	Krishna, Goma Aishwarya, NA-7,Anand-2, Anand-1		
		Rough	9	NarendraAonla-10,Francis,Kanchan		
12.(+)(*)	Fruit Shape	Flattened Round	1	Chakaiya, Francis, Kanchan, NarendraAonla-10, Goma Aishwarya	a	VG
		Round	3	NarendraAonla-6		
		Triangular	5	Krishna, Banarasi		
		Oval	7	NarendraAonla-7, Anand-1, Anand-2		
13(*)	Fruit colour	Greenish(146A)	1	Anand-1, Anand-2, Banarasi,	a	RHS
		Yellowish green ithinkish tinge(144A)	3	NarendraAonla-7		
		Light green(145A)	5	NarendraAonla-6, Krishna, Francis, Chakaiya, NarendraAonla-10		
14.(*)	Fruit Stalk	Thick	1	Narendra Aonla-7,Banarasi,Krishna,NA-10	C	VG
		Thin	2	NA-6,Francis, Chakaiya,Kanchan,Anand-1		
15.(+)	Stem end	Flate	1	Krishna, NarendraAonla-7, NarendraAonla-10,	C	VG
		Depressed	2	Goma Aishwarya,Anand-2, Anand-1,Krishna		
16.(*)	Bearing tendency	Shy bearing		Banarasi, Krishna	C	VG
		Heavy bearing		Narendra Aonla-7,Anand-1.Goma Aishwarya		
17	Stone size	Small	3	Krishna, Kanchan, Chakaiya, Anand-1, Anand-2	C	MS
		Medium	5	NarendraAonla-10, Francis, Goma Aishwarya		
		Large	7	Chakaiya, Banarasi, Narendra Aonla -7		

18(+)(*)	Stone shape	Triangular	1	Krishna,Banra	a	VG
		Round	3	Kanchan ,Anand-1,Anand-2		
		Oval round	5	NA-7,Banarasi		
		Oval	7	NA-6, Francis,NA-10		
19(+)	Seed colour	Light Brown(177C)	3	Narendra Aonla-6, Goma Aishwarya	C	VG
		Dark Brown(177A)	7	Narendra Aonla-7,Banarasi		
20.(+)	Harvest Maturity	Early	1	Narendra Aonla-10, Banarasi, Krishna	D	VG
		Mid	5	NarendraAonla-7, Francis,Goma Aishwarya		
		Late	7	Chakaiya,NarendraAonla-6, Kanchan,		
21.	Fruit Weight	Low 30-40 gm	5	Narendra Aonla-10, Chakaiya, Francis	C	MS
		Medium 40-45gm	7	Banarasi,Goma Aaishwarya,		
		Very High >45gm	9	Krishna, Narendra Aonla-7		
22(*)	Fruit Segment	Six	1	NarendraAonla-6, NarendraAonla-10,Chakaiya,Anand-1,Anand-2 ,Banarasi,Kanchan,Francis,Goma Aishwarya	C	MS
		Six to Eight	2	Krishna, Narendra Aonla-7		
23(*)	Fruit Fibre (%)	Low fiber	3	Narendra Aonla-6, Krishna, Chakaiya, Goma Aishwarya,	C	VG
		High fiber	5	Kanchan, Francis, Anand-1, Anand-2		
24(*)	Pulp(%)	Low	1	Kanchan,Anand-2,NA-6	C	MS
		High	3	Narendra Aonla-6, Banarasi, NA-10		
25	Total Phenol content(TAEg/100g)	Low<1	1	Krishna, Banarasi,NA-6,NA-7,Anand-1,Banarasi, Narendra Aonla-7	C	MS
		High>1	7	Kanchan, Anand-2, Anand-1, Francis, Goma Aishwarya, Chakaiya,NA-10		
26	Vitamin C (mg/100g)	Low<400mg	1	Francis	C	MS
		Medium400-500mg	3	NA-4 NA-5 Chakaiya,		
		High>500mg	7	NA-10, Goma Aishwarya, Banarasi		

VIII. Explanation for the table of characteristics

Characteristic 2: Growth Habit

Spreading

Erect

Drooping

Characteristic 5: Leaf Shape

Elliptical

Oblong

Oval

Characteristic 6: Leaf Apex

Acute

Obtuse

Characteristic 14: Inflorescence Colour

Deep Pink

Pinkish Green

Characteristic 16: Fruit shape

Flattened round

Round

Triangular

Flattened oval

Characteristic 20 : Fruit stem end

Prominent

Less prominent

characteristic 24: Stone shape

Triangular

Round

Oval

Characteristic 32: Fiber(%)

2g of moisture and fat free material was treated with 200 ml 0f 1.25% sulphuric acid(H_2SO_4). After filtration with Whattman paper no.4 and washing the residue was treated with 1.25% NaOH. It was filtered, washed with hot water and then 1% HNO_3 and again with hot water. The residue was ignited and the ash weighed. Loss in weight gave the weight of crude fiber.(Chopra and Kanwar,1991 and Mazumdar and Mazumdar,2003)

$$\text{Crude Fiber\%} = \frac{(c-b)-(d-b)}{(a)}$$

a= wt. of sample

b= wt. of crucible

c= initial wt. of crucible containing tissue sample before ignition

d= final weight of crucible containing ash after ignition.

Characteristic 34: Pulp TSS (^{0}Brix)

The fruits of the variety under test shall be harvested as per uniformity in size, shape and colour at maturity stage. For determination of total soluble solid (TSS), twenty gram fruit pulps (20 g) shall be blended for 3 min. Followed by wrapping in cheesecloth, squeezing by hand and then expressing juice used for measurement of TSS in ^{0}Brix using hand-held/ digital refractometer (Krishna and Parashar, 2013).

Characteristic 35: Pulp acidity (%)

The pulp acidity contents of the samples shall be determined by visual titration method as suggested by Ranganna (1986) with slight modification. For estimation of total acidity in samples, twenty gram (20 g) fruit pulp shall be blended and mixed thoroughly. Later, it shall be filtered and transferred to volumetric flask to make up the volume to 100 ml. Ten-milliliter aliquot of the sample prepared as above shall be titrated with 0.1 N sodium hydroxide (NaOH) to an endpoint of pH 8.1. The content shall be expressed as percentage of citric acid.

$$\text{Acidity (\%)} = \frac{\text{Titre value x Normality of alkalix Volume made up Equivalent weight of acid (i.e. 64) x 100}}{\text{Volume of sample taken for estimation x Weight or volume of sample taken x 1000}}$$

Characteristic 36: Phenol content of pulp(mg/100g)

Reagents

i. Folins reagent- 750 ml of water, add 100g of sodium tungstate, 20 g of phosphomolybdic acid and 50 ml of 85% phosphoric acid. Reflux the mixture for 2hr, cool to 25^0 C and dilute to 1000 ml with water. ii. Saturated sodium carbonate solution- To 100 ml of water, add 35 g of anhydrous sodium carbonate. Dissolve at 70-80^0 C and cool overnight. Decant the clear liquid before use.

iii. Tannic acid std. solution- Dissolve 100mg of tannic acid in 1lt. of water. Prepare fresh solution for each determination.For estimation of total phenol content by tannic acid, took 5g sample and crush in 50 ml distilled water. Then 0.1 ml aqueous sample was taken in 25 ml volumetric flask. Add 1.25ml 1N folinsreagent and 2.5 ml saturated sodium carbonate solution. Make up the volume by adding distilled water up to the mark of flask. Shake well and wait for 30mins for colour development. Then took optical density at 760nm on spectrophotometer. Ranganna (1986)

Characteristic 37: Ascorbic acid content of pulp (mg/100g FW)

The ascorbic acid contents of the samples shall be determined by visual titration method of reduction of 2, 6-dichlorophenol–indophenol dye as per the method suggested by Ranganna (1986). Results shall be expressed as mg/100 g FW.

Reagents

(a) Ascorbic acid standard: Weigh accurately 100 mg of L-ascorbic acid and make up to 100 ml with 3% HPO_3. Dilute 10 ml to 100 ml with 3% HPO_3 (1 ml = 0.1 mg of ascorbic acid).

(b) Dye solution: Dissolve 50 mg of the sodium salt of 2, 6-dichlorophenol–indophenol ($C_{12}H_6Cl_2NNaO_2.2H_2O$) in approximately 150 ml of hot glass distilled water containing 42 mg of sodium bicarbonate ($NaHCO_3$). Cool and dilute with distilled water to 200 ml.

For standardization of dye, five ml each of standard ascorbic acid solution and HPO3 shall be taken together and shall be titrated with the dye solution to a pink colour, which should persist for 15 sec. The dye factor (mg of ascorbic acid/ ml of dye) shall be calculated using following formula-

$$\text{Dye factor} = \frac{0.5}{\text{Titre}}$$

For estimation of ascorbic acid in fruit sample, five grams of pulp shall be taken and blended with 3% meta-phosphoric acid (HPO_3). The final volume shall be made upto 100 ml with HPO_3 followed by centrifugation or filtration. Two ml aliquot of the HPO_3 extract of the pulp shall be taken titrated with standard dye to a pink end-point, which should persist for at least 15 sec. Calculation of ascorbic acid content of the sample shall be done from the following formula-

$$\text{Ascorbic acid (mg/100 g)} = \frac{\text{Titre} \times \text{Dye factor} \times \text{Volume made up} \times 100}{\text{Aliquot of extract taken for estimation} \times \text{Weight of sample Taken}}$$

Litrature

Chopra, S L, Kanwar, J S . 1991. In: *Analytical Agricultural chemistry*, Vol.,IV .New Delhi, India, Kalyani Publications.P.297.

Krishna, H. and Parashar, A.2013. Phytochemical constituents and antioxidant activities of some Indian jujube (*Ziziphus mauritiana* Lamk.) cultivars. *Journal of Food Biochemistry*,doi:10.1111/jfbc.12008. (http://onlinelibrary.wiley.com/doi/10.1111/jfbc.12008/abstract)

Mazumdar, B.C and Mazundar K. 2003. *Methods on Physico-chemical Analysis of fruits*,University college of Agriculture, Calcutta University.108-109.

Ranganna, S. 1986. *Handbook of Analysis and Quality Control for Fruit and Vegetable Products*. 2nd ed. Tata McGraw-Hill, New Delhi, India. 1112 p.

IX. Working Group details

The Test Guidelines developed by the Task Force (**08/2014**) constituted by the PPV & FR Authority consultation with the Nodal officer, Dr. Devendra Pandey, Pr. Scientist, CISH, Lucknow and Co-Nodal Officer, Dr. A. K. Singh, Pr. Scientist, CISH, Lucknow.

The members of the task force :

1. **Dr. H. Ravishankar** — **Chairman**
Pr. Scientist & IC, ATIC
Indian Institute of Horticulture Research
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2. **Dr. P. K. Singh** — **Member**
Principal Scientist,
Indian Institute of Sugarcane Research
Raibareli Road, P.O. Dilkusha, Lucknow - 226 002

3. **Dr. A. K. Singh,** — **Member**
Senior Scientist (Hort.) & Co-PI Aonla project
Central Horticulture Experiment Station (CHES)
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4. **Dr. Devendra Pandey** — **Member**
Principal Scientist (Hort.) & PI Aonla Project (Co-Nodal Centre)
Central Institute of Subtropical Horticulture,
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5. **Dr. Ravi Prakash** — **Member Secretary**
Registrar, PPV & FRA, New Delhi

Nodal Scientist

Dr. Devendra Pandey
Principal Scientist (Horticulture) & Project Investigator
Nodal Centre- Central Institute for Subtropical Horticulture
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Rehmankhera, P.O.Kakori, Lucknow UP- 227107

Co Nodal Scientist

Dr. A.K. Singh,
Principal Scientist (Horticulture) ,
Central Institute for Subtropical Horticulture,
P.O. Kakori, Rehmankhera, Luknow (Uttar Pradesh)

X. DUS Test Centres

Nodal Centre	**Co Nodal centre**
Central Institute for Subtropical Horticulture , P.O. Kakori, Lucknow-227107	Central Horticulture Experimental Station(CIAH),Vejalpur-389340,Panchmahals (GUJARAT)

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 for registration of farmers' variety [Section 2(j)(ii)] read with Rules 30 and 31 of PPV & FR Rules, 2003

It is hereby advertised that the application (s) for registration of farmers' varieties (falling within the definition of extant variety) listed herein have been accepted by the Registrar, Protection of Plant Varieties & Farmers' Rights Authority. 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. F832 OS852 11 1169 filed on 26.09.2011 by **Director of Agriculture and Food Production, Govt. of Odisha, Bhubaneswar, 751 001, India** on behalf of **Sh Sankar Sahani and Others, At-Dhaunradadar, Block-Agalpur, Dist-Balangir, State-Odisha,** for a **Farmers' variety** of crop **Rice** (*Oryza sativa* L.) having denomination **Akul-Bal**, 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 : **Akul-Bal**
Applicant : **Sankar Sahani and Others**
Address of the Applicant : **At-Dhaunradadar, Block-Agalpur, Dist-Balangir, State-Odisha**
Nationality of Applicant : Indian
Application details
a. Number : F832 OS852 11 1169
b. Date of receipt : 26.09.2011
c. Date of acceptance : 26.09.2011
Crop (Taxonomical Lineage) : Rice (*Oryza sativa* L.)
Denomination : **Akul-Bal**
Type of Variety : Farmers' variety
Classification of Variety : Typical Variety
Previously proposed Denomination : **Akul-Bal**
Name of Parental Material : Own Material
Name of Reference Varieties : **Basmati 370**

Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Basal leaf: Sheath colour	Green
Time of heading (50 % of plants with panicles)	Medium
Stem: Length (excluding panicle; excluding floating rice)	Medium
Decorticated grain: Length	Medium
Decorticated grain: Shape (in lateral view)	Long Slender
Decorticated grain: Colour	Variegated Brown
Endosperm: Content of amylose	Medium
Decorticated grain: Aroma	Absent
B. Distinct Characteristics: **Akul-Bal** has distinguishing characters as Spikelet: Colour of tip of lemma: White Panicle: Awns: Absent	

C. Reference varieties:
Basmati 370 has distinguishing characters as Spikelet: Colour of tip of lemma: Brown Panicle: Awns: Present

D. Date of commercialization of the variety	**----**

02. Application No. F504 OS527 14 738 filed on 26.03.2014 by **Chatur Bediya, Village & Panchyat: Kuchhu, Angada, Ranchi, Jharkhand, India** for a **Farmers' variety** of crop **Rice** (*Oryza sativa* L.) having denomination **Tewan Dhan**, 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 : **Tewan Dhan**
Applicant : **Chatur Bediya**
Address of the Applicant : **Village & Panchyat: Kuchhu, Angada, Ranchi, Jharkhand, India**
Nationality of Applicant : Indian
Application details
a. Number : F504 OS527 14 738
b. Date of receipt : 26.03.2014
c. Date of acceptance : 26.03.2014
Crop (Taxonomical Lineage) : Rice (*Oryza sativa* L.)
Denomination : **Tewan Dhan**
Type of Variety : Farmers' variety
Classification of Variety : Typical Variety
Previously proposed Denomination : **Tewan Dhan**
Name of Parental Material : Own Material
Name of Reference Varieties : **Sugandhmati, PUSA BAS 1**

Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Basal leaf: Sheath colour	Green
Time of heading (50 % of plants with panicles)	Medium
Stem: Length (excluding panicle; excluding floating rice)	Very short
Decorticated grain: Length	Medium
Decorticated grain: Shape (in lateral view)	Short bold
Decorticated grain: Colour	White
Endosperm: Content of amylose	Medium
Decorticated grain: Aroma	Present
B. Distinct Characteristics: **Tewan Dhan** has distinguishing characters as Decorticated grain: Length: Medium	

C. Reference varieties:

Sugandhmati has distinguishing characters as Decorticated grain: Length: Long **PUSA BAS 1** has distinguishing characters as Decorticated grain: Length: Long

D. Date of commercialization of the variety	**----**

03. Application No. **F496 OS519 14 722** filed on 25.03.2014 by **Dashrath Bediya, Village & Panchyat: Kuchhu, Angada, Ranchi, Jharkhand, India** for a **Farmers' variety** of crop **Rice** (*Oryza sativa* L.) having denomination **Barabali**, 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 : **Barabali**
Applicant : **Dashrath Bediya**
Address of the Applicant : **Village & Panchyat: Kuchhu, Angada, Ranchi, Jharkhand, India**
Nationality of Applicant : Indian
Application details
a. Number : **F496 OS519 14 722**
b. Date of receipt : 25.03.2014
c. Date of acceptance : 25.03.2014
Crop (Taxonomical Lineage) : Rice (*Oryza sativa* L.)
Denomination : **Barabali**
Type of Variety : Farmers' variety
Classification of Variety : Typical Variety
Previously proposed Denomination : **Barabali**
Name of Parental Material : Own Material
Name of Reference Varieties : **Krishna Hamsa, IR 50**

Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Basal leaf: Sheath colour	Light Purple
Time of heading (50 % of plants with panicles)	Medium
Stem: Length (excluding panicle; excluding floating rice)	Short
Decorticated grain: Length	Long
Decorticated grain: Shape (in lateral view)	Medium slender
Decorticated grain: Colour	White
Endosperm: Content of amylose	High
Decorticated grain: Aroma	Absent
B. Distinct Characteristics: **Barabali** has distinguishing characters as Spikelet: Colour of stigma: Purple Stem: Anthocyanin colouration of nodes: Present Panicle: Awns: Present	

C. Reference varieties: **Krishna Hamsa** has distinguishing characters as Spikelet: Colour of stigma: White Stem: Anthocyanin colouration of nodes: Absent Panicle: Awns: Absent **IR 50** has distinguishing characters as Spikelet: Colour of stigma: White Stem: Anthocyanin colouration of nodes: Absent Panicle: Awns: Absent

D. Date of commercialization of the variety	**----**

04. Application No. **F510 OS533 14 754** filed on 26.03.2014 by **Gandura Oraon, Village & Post: Ajaygarh, Silli, Ranchi, Jharkhand, India** for a **Farmers' variety** of crop **Rice** (*Oryza sativa* L.) having denomination **Neta Kalani**, 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 : **Neta Kalani**
Applicant : **Gandura Oraon**
Address of the Applicant : **Village & Post: Ajaygarh, Silli, Ranchi, Jharkhand, India**
Nationality of Applicant : Indian
Application details
a. Number : **F510 OS533 14 754**
b. Date of receipt : 26.03.2014
c. Date of acceptance : 26.03.2014
Crop (Taxonomical Lineage) : Rice (*Oryza sativa* L.)
Denomination : **Neta Kalani**
Type of Variety : Farmers' variety
Classification of Variety : Typical Variety
Previously proposed Denomination : **Neta Kalani**
Name of Parental Material : Own Material
Name of Reference Varieties : **DRR Dhan 39, Prasanna**

Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Basal leaf: Sheath colour	Uniform Purple
Time of heading (50 % of plants with panicles)	Medium
Stem: Length (excluding panicle; excluding floating rice)	Short
Decorticated grain: Length	Long
Decorticated grain: Shape (in lateral view)	Long Bold
Decorticated grain: Colour	Dark Brown
Endosperm: Content of amylose	Medium
Decorticated grain: Aroma	Absent
B. Distinct Characteristics: **Neta Kalani** has distinguishing characters as Flag leaf: Attitude of blade (late observation): Erect	

Spikelet: Colour of tip of lemma: Purple

C. Reference varieties: **DRR Dhan 39** has distinguishing characters as Flag leaf: Attitude of blade (late observation): Semi-erect Spikelet: Colour of tip of lemma: White **Prasanna** has distinguishing characters as Flag leaf: Attitude of blade (late observation): Horizontal Spikelet: Colour of tip of lemma: White

D. Date of commercialization of the variety	**----**

05. Application No. **F508 OS531 14 752** filed on 26.03.2014 by **Subhash Kumar, New Colony, Jagannathpur, Post Dhurwa, Ranchi, Jharkhand, India** for a **Farmers' variety** of crop **Rice** (*Oryza sativa* L.) having denomination **Bageri Sona**, 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 : **Bageri Sona**
Applicant : **Subhash Kumar**
Address of the Applicant : **New Colony, Jagannathpur, Post Dhurwa, Ranchi, Jharkhand, India**
Nationality of Applicant : Indian
Application details
a. Number : **F508 OS531 14 752**
b. Date of receipt : 26.03.2014
c. Date of acceptance : 26.03.2014
Crop (Taxonomical Lineage) : Rice (*Oryza sativa* L.)
Denomination : **Bageri Sona**
Type of Variety : Farmers' variety
Classification of Variety : Typical Variety
Previously proposed Denomination : **Bageri Sona**
Name of Parental Material : Own Material
Name of Reference Varieties : **Jaya, IR 64**

Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Basal leaf: Sheath colour	Green
Time of heading (50 % of plants with panicles)	Medium
Stem: Length (excluding panicle; excluding floating rice)	Short
Decorticated grain: Length	Long
Decorticated grain: Shape (in lateral view)	Short Bold
Decorticated grain: Colour	White
Endosperm: Content of amylose	Medium
Decorticated grain: Aroma	Absent
B. Distinct Characteristics:	

Bageri Sona has distinguishing characters as Panicle: Awns : Absent

C. Reference varieties: **Jaya** has distinguishing characters as Panicle: Awns : Present

D. Date of commercialization of the variety	**----**

06. Application No. **F490 OS513 14 711** filed on 25.03.2014 by **Ahlad Bediya, Village and Panchyat Kuchhu, Post Hundru, Angadha, Ranchi, Jharkhand, India** for a **Farmers' variety** of crop **Rice** (*Oryza sativa* L.) having denomination **Safed Lalak**, 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 : **Safed Lalak**
Applicant : **Ahlad Bediya**
Address of the Applicant : **Village and Panchyat Kuchhu, Post Hundru, Angadha, Ranchi, Jharkhand, India**
Nationality of Applicant : Indian
Application details
a. Number : **F490 OS513 14 711**
b. Date of receipt : 25.03.2014
c. Date of acceptance : 25.03.2014
Crop (Taxonomical Lineage) : Rice (*Oryza sativa* L.)
Denomination : **Safed Lalak**
Type of Variety : Farmers' variety
Classification of Variety : Typical Variety
Previously proposed Denomination : **Safed Lalak**
Name of Parental Material : Own Material
Name of Reference Varieties : **RP BIO 226, Govind**

Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Basal leaf: Sheath colour	Green
Time of heading (50 % of plants with panicles)	Early
Stem: Length (excluding panicle; excluding floating rice)	Very Short
Decorticated grain: Length	Long
Decorticated grain: Shape (in lateral view)	Long Slender
Decorticated grain: Colour	White
Endosperm: Content of amylose	Low
Decorticated grain: Aroma	Very Strong

B. Distinct Characteristics:
Safed Lalak has distinguishing characters as Leaf Pubescence of blade surface: Very Strong

C. Reference varieties:
RP BIO 226 has distinguishing characters as Leaf Pubescence of blade surface: Strong
Govind has distinguishing characters as Leaf Pubescence of blade surface: Medium

D. Date of commercialization of the variety	**----**

07. Application No. **F506 OS529 14 740** filed on 26.03.2014 by **Tribhuvan Munda, Village Lenkeya, Panchyat Pundla, Post Tamad, Ranchi, Jharkhand, India** for a **Farmers' variety** of crop **Rice** (*Oryza sativa* L.) having denomination **Lauhonchi (Dehati)**, 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 : **Lauhonchi (Dehati)**
Applicant : **Tribhuvan Munda**
Address of the Applicant : **Village Lenkeya, Panchyat Pundla, Post Tamad, Ranchi, Jharkhand**
Nationality of Applicant : Indian
Application details
a. Number : **F506 OS529 14 740**
b. Date of receipt : 26.03.2014
c. Date of acceptance : 26.03.2014
Crop (Taxonomical Lineage) : Rice (*Oryza sativa* L.)
Denomination : **Lauhonchi (Dehati)**
Type of Variety : Farmers' variety
Classification of Variety : Typical Variety
Previously proposed Denomination : **Lauhonchi (Dehati)**
Name of Parental Material : Own Material
Name of Reference Varieties : **Mugadh Sugandh, PUSA 1121**

Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Basal leaf: Sheath colour	Light Purple
Time of heading (50 % of plants with panicles)	Late
Stem: Length (excluding panicle; excluding floating rice)	Short
Decorticated grain: Length	Long
Decorticated grain: Shape (in lateral view)	Short Bold
Decorticated grain: Colour	Dark Brown
Endosperm: Content of amylose	Very High
Decorticated grain: Aroma	Present

B. Distinct Characteristics:
Lauhonchi (Dehati) has distinguishing characters as Leaf Auricles: Absent

C. Reference varieties:
Mugadh Sugandh has distinguishing characters as Leaf Auricles: Present
PUSA 1121 has distinguishing characters as Leaf Auricles: Present

D. Date of commercialization of the variety	**----**

08. Application No. F509 OS532 14 753 filed on 26.03.2014 by **Chatur Bediya, Village and Panchyat Kuchchu, Block Angara, Ranchi, Jharkhand, India** for a **Farmers' variety** of crop **Rice** (*Oryza sativa* L.) having denomination **Sindoor Sal**, 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 : **Sindoor Sal**
Applicant : **Chatur Bediya**
Address of the Applicant : **Village and Panchyat Kuchchu, Block Angara, Ranchi, Jharkhand**
Nationality of Applicant : Indian
Application details
a. Number : F509 OS532 14 753
b. Date of receipt : 26.03.2014
c. Date of acceptance : 26.03.2014
Crop (Taxonomical Lineage) : Rice (*Oryza sativa* L.)
Denomination : **Sindoor Sal**
Type of Variety : Farmers' variety
Classification of Variety : Typical Variety
Previously proposed Denomination : **Sindoor Sal**
Name of Parental Material : Own Material
Name of Reference Varieties : **RP BIO 226, HMT SONA**

Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Basal leaf: Sheath colour	Green
Time of heading (50 % of plants with panicles)	Late
Stem: Length (excluding panicle; excluding floating rice)	Medium
Decorticated grain: Length	Medium
Decorticated grain: Shape (in lateral view)	Short Bold
Decorticated grain: Colour	light Brown
Endosperm: Content of amylose	Very High

Decorticated grain: Aroma	Absent

B. Distinct Characteristics:

Sindoor Sal has distinguishing characters as Panicle: Curvature of main axis: Dropping

C. Reference varieties:

RP BIO 226 has distinguishing characters as Panicle: Curvature of main axis: Deflexed

HMT SONA has distinguishing characters as Panicle: Curvature of main axis: Deflexed

D. Date of commercialization of the variety	**----**

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

1. Application No. | N9 | GA9 | 12 | 64 | filed on **16.03.2012** by **M/S Shakti Vardhak Hybrid Seeds Pvt Ltd, Tilak Bazar, Hisar-125001 (Haryana).** for a **New Variety** of crop **Diploid Cotton** [*Gossypium arboreum* (L.)] having denomination **SV-318,** 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 : **SV-318**
Applicant : **M/S Shakti Vardhak Hybrid Seeds Pvt Ltd**
Address of the Applicant : **Tilak Bazar, Hisar-125001 (Haryana).**

Nationality of Applicant : Indian
Application details
a. Number :
b. Date of receipt : | N9 | GA9 | 12 | 64 |
c. Date of acceptance : --
Crop (Taxonomical Lineage) : **Diploid Cotton** [*Gossypium arboreum* (L.)]
Denomination : SV-318
Type of Variety : New Variety
Classification of Variety : Typical
Previously proposed Denomination : Not applicable
Name of Parental Material : GMS-1 x SV-45
Source of parental material : GMS-1: CCS HAU, Hisar; SV-45: Own germplasm line
Name of Reference Varieties **:** AKA-5
Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Leaf: Shape	Digitate (okra)
Flower: Petal colour	White
Flower: Pollen colour	Yellow
Boll: Shape (longitudinal section)	Ovate
Fibre: Length (2.5 % span length)(mm)	N/A

B. Distinct Characteristics: SV-385 has distinguishing character as Seed: Index(100 seed wt in gram): **Medium**	
C. Reference variety: **AKA-5** has distinguishing character as Seed: Index(100 seed wt in gram): **Small**	
D. Date of commercialization of the variety	-
E. Agronomic and commercial attributes	Adaptability to change in agronomic conditions, SV-318 gave significantly higher seed cotton yield at all the locations. The row spacing of 67.5 x 30 cm was found to be optimum. Among the fertilizer does 100% RDF gave higher seed cotton yield. It is found resistance to lodging and responsive to fertilizer doses. However, SV-318 was found resistant to bacterial leaf blight disease and tolerant to fusarium wilt, root rot, fungal foliar leaf spot diseases, jassid and bollworms. Matures in 160-165 days, It has a plant height ranging from 190-200cm, elliptic boll shape, pitted surface, pointed prominence of tip, large boll weight, very high ginning out turn, medium seed fuzz, grey fuzz colour, white fibre colour and desired fibre properties. Arboretum cotton is grown for lint which is used as major textile raw material, surgical and domestic purposes.

Photographs: (See figure-1)

2. Application No. | **N7** | **GA7** | **12** | **62** | filed on **16.03.2012** by **M/S Shakti Vardhak Hybrid Seeds Pvt Ltd, Tilak Bazar, Hisar-125001 (Haryana).** for a **New Variety** of crop **Diploid Cotton** [*Gossypium arboretum* (L.)] having denomination **SV-202,** 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 : **SV-202**
Applicant : **M/S Shakti Vardhak Hybrid Seeds Pvt Ltd**
Address of the Applicant : **Tilak Bazar, Hisar-125001 (Haryana).**

Nationality of Applicant : Indian
Application details
a. Number : | **N7** | **GA7** | **12** | **62** |
b. Date of receipt : 16.03.2012
c. Date of acceptance : --

Crop (Taxonomical Lineage) : **Diploid Cotton** [*Gossypium arboreum* (L.)]
Denomination : SV-202
Type of Variety : New Variety
Classification of Variety : Typical
Previously proposed Denomination : Not applicable
Name of Parental Material : GMS-1 x SV-45
Source of parental material : GMS-1: CCS HAU, Hisar; SV-45: Own germplasm line
Name of Reference Varieties **:** Y1, AAH1
Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Leaf: Shape	Semi-digitate (semi- okra)
Flower: Petal colour	White
Flower: Pollen colour	Yellow
Boll: Shape (longitudinal section)	Ovate
Fibre: Length (2.5 % span length)(mm)	Medium long
B. Distinct Characteristics: SV-202 has distinguishing character as Boll: Shape (longitudinal section): **Elliptic,** Boll: Weight of seed cotton/boll (g): **Large**	
C. Reference variety: **Y1** has distinguishing character as Boll: Shape (longitudinal section): **Ovate,** Boll: Weight of seed cotton/boll (g): **Medium** **AAH1** has distinguishing character as Boll: Shape (longitudinal section): **Elliptic,** Boll: Weight of seed cotton/boll (g): **Medium**	
D. Date of commercialization of the variety	-
E. Agronomic and commercial attributes	Adaptability to change in agronomic conditions, SV-202 gave significantly higher seed cotton yield at all the different locations. The row spacing of 67.5 x 30 cm was found to be optimum. Among the fertilizer does 100% RDF gave higher seed cotton yield. It is found resistance to lodging and responsive to fertilizer does. How ever, SV-202 was found resistant to bacterial leaf blight disease and tolerant to fusarium wilt, root rot, fungal foliar leaf spot diseases, jassid and bollworms, Genotype SV-202 found to be non-shedding of kapas and matures in 155-160 days. It has elliptic boll shape, pitted surface, pointed prominence of tip, large boll weight with 3.5g, very high ginning out turn with medium seed fuzz, grey fuzz colour, white fibre colour, medium fibre length, course fineness, excellent fibre uniformity and very good fibre maturity.

Photographs: (See figure 02)

3. Application No. | N5 | GA5 | 12 | 60 | filed on **16.03.2012** by **M/S Shakti Vardhak Hybrid Seeds Pvt Ltd, Tilak Bazar, Hisar-125001 (Haryana).** for a **New Variety** of crop **Diploid Cotton** [*Gossypium arboretum* (L.)] having denomination **SV-45,** 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 : **SV-45**
Applicant : **M/S Shakti Vardhak Hybrid Seeds Pvt Ltd**
Address of the Applicant : **Tilak Bazar, Hisar-125001 (Haryana)**

Nationality of Applicant : Indian
Application details
a. Number : **N5** **GA5** **12** **60**
b. Date of receipt : 16.03.2012
c. Date of acceptance : --
Crop (Taxonomical Lineage) : **Diploid Cotton** [*Gossypium arboreum* (L.)]
Denomination : SV-45
Type of Variety : New Variety
Classification of Variety : Typical
Previously proposed Denomination : Not applicable
Name of Parental Material : GC-10 x GC-1
Source of parental material : Own Germplasm line
Name of Reference Varieties **:** AKA-7
Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Leaf: Shape	Digitate (okra)
Flower: Petal colour	White
Flower: Pollen colour	Yellow
Boll: Shape (longitudinal section)	Elliptic
Fibre: Length (2.5 % span length)(mm)	Medium
B. Distinct Characteristics: SV-45 has distinguishing character as Fibre: Length (2.5 % span length)(mm): **Medium**	
C. Reference variety: **AKA-7** has distinguishing character as Fibre: Length (2.5 % span length)(mm): **Medium long**	

D. Date of commercialization of the variety	
E. Agronomic and commercial attributes	Adaptability to change in agronomic condition, **SV-45** gave significantly higher seed cotton yield at all the different locations. The row spacing of 67.5x30cm was found to be optimum. Among the fertilizer doses 100% RDF gave higher seed cotton yield. It is found resistance to lodging, shedding and responsive to fertilizer doses. SV-45 was found resistant to bacterial leaf blight disease, comparatively tolerant to fusarium wilt, root rot and fungal foliar leaf spot disease and tolerant to jassid and bollworms. It matures in 155-160 days, It has a plant height ranging from 180-185cm, It has elliptic boll shape, pitted surface, pointed prominence of tip, large boll weight with 4.0g, long opening, very high ginning out turn, dense seed fuzz, grey seed, medium seed index, white fibre colour, medium 2.5% span length, course fibre, excellent, uniformity and very good fibre maturity.

Photographs: (See figure 03)

4. Application No. | **N05** | **GH07** | **12** | **53** | filed on **16.03.2012** by **M/S Shakti Vardhak Hybrid Seeds Pvt Ltd, Tilak Bazar, Hisar-125001 (Haryana).** for a **New Variety** of crop **Tetraploid Cotton** [*Gossypium hirsutum* L.] having denomination **SVH-8,** 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 : **SVH-8**
Applicant : **M/S Shakti Vardhak Hybrid Seeds Pvt Ltd**
Address of the Applicant : **Tilak Bazar, Hisar-125001 (Haryana).**

Nationality of Applicant : Indian
Application details
a. Number : | **N05** | **GA07** | **12** | **53** |
b. Date of receipt : 16.03.2012
c. Date of acceptance : --
Crop (Taxonomical Lineage) : **Tetraploid Cotton** [*Gossypium hirsutum* L.]
Denomination : SVH-8

Type of Variety : New Variety
Classification of Variety : Typical
Previously proposed Denomination : Not applicable
Name of Parental Material : GC-1 x GC-9
Source of parental material : Own Germplasm line
Name of Reference Varieties **:** ABADHITA

Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Leaf: Shape	Palmate
Flower: Petal colour	Cream
Flower: Pollen colour	Cream
Boll: Shape (longitudinal section)	Ovate
Fibre: Length(2.5% span length)(mm)	Medium long
B. Distinct Characteristics: SVH-8 has distinguishing character as Flower: Pollen colour: **Yellow**	
C. Reference variety: **ABADHITA** has distinguishing character as Flower: Pollen colour: **Cream**	
D. Date of commercialization of the variety	Not commercialization
E. Agronomic and commercial attributes	Adaptability to change in agronomic conditions. SVH-8 gave significantly higher seed cotton yield at all the locations of north zone. The row spacing of 67.5 x 30 cm was found to be optimum. Among the fertilizer does 100% RDF gave higher seed cotton yield. It is found resistance to lodging, shedding and responsive to fertilizer does. SVH-89 found tolerant to cotton leaf curl virus disease, shedding a jassid and bollworms. It matures in 165- 170 days, It has ovate boll shape, smooth surface, pointed performance of tip, medium boll weight with 4.1-5.0 g, high ginning out turn, medium seed fuzz with white colour, bold seed index, white fibre colour, medium long fibre length, strength and fineness with good uniformity and maturity.

Photographs: (See figure 04)

N9	**GH11**	**12**	**57**

5. Application No. filed on **16.03.2012** by **M/S Shakti Vardhak Hybrid Seeds Pvt Ltd, Tilak Bazar, Hisar-125001 (Haryana).** for a **New Variety** of crop **Tetraploid Cotton** [*Gossypium hirsutum* L.] having denomination **SVG04-2440,** 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 : **SVG04-2440**
Applicant : **M/S Shakti Vardhak Hybrid Seeds Pvt Ltd**
Address of the Applicant : **Tilak Bazar, Hisar-125001 (Haryana).**

Nationality of Applicant : Indian
Application details
a. Number : **N9** **GH11** **12** **57**
b. Date of receipt : 16.03.2012
c. Date of acceptance : --
Crop (Taxonomical Lineage) : **Tetraploid Cotton** [*Gossypium hirsutum* L.]
Denomination : SVG04-2440
Type of Variety : New Variety
Classification of Variety : Typical
Previously proposed Denomination : Not applicable
Name of Parental Material : HGMS-1 x SVH-15
Source of parental material : HGMS-1: CCS HAU, Hisar; SVH-15: Own Germplasm line
Name of Reference Varieties **:** Sahana, Supriya

Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Leaf: Shape	Palmate
Flower: Petal colour	Cream
Flower: Pollen colour	Yellow
Boll: Shape (longitudinal section)	Ovate
Fibre: Length(2.5% span length)(mm)	Long

B. Distinct Characteristics: SVG04-2440 has distinguishing character as Seed: Index (100 seed wt in gram): **Bold**	
C. Reference variety: **Sahana, Supriya** has distinguishing character as Seed: Index (100 seed wt in gram): **Medium**	
D. Date of commercialization of the variety	Not commercialization
E. Agronomic and commercial attributes	Adaptability to change in agronomic conditions, SVG04-2440 gave significantly higher seed cotton yield at all the locations of north and central zone. The row spacing of 67.5 x 30 cm was found to be optimum. Among the fertilizer does 100% RDF gave higher seed cotton yield. It is found resistance to lodging and responsive to fertilizer doses. SVG04-2440 is resistant to cotton leaf curl virus disease and tolerant to jassid and bollworms. It matures in 165-170 days. It has round boll shape, smooth surface, pointed prominence of tip, medium boll weight with 4.1-5.0g, very high ginning out turn, medium seed fuzz, white fuzz colour, bold seed index, white fibre colour, long fibre length, medium strength, fine fineness, good uniformity and excellent maturity. As American cotton lint is being used as a major textile raw material and domestic purpose.

Photographs: (See figure 05)

6. Application No. | **N8** | **GH10** | **12** | **56** | filed on **16.03.2012** by **M/S Shakti Vardhak Hybrid Seeds Pvt Ltd, Tilak Bazar, Hisar-125001 (Haryana).** for a **New Variety** of crop **Tetraploid Cotton** [*Gossypium hirsutum* L.] having denomination **SVG04-75,** 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 : **SVG04-75**
Applicant : **M/S Shakti Vardhak Hybrid Seeds Pvt Ltd**
Address of the Applicant : **Tilak Bazar, Hisar-125001 (Haryana).**

Nationality of Applicant : Indian
Application details
a. Number : | **N8** | **GA10** | **12** | **56** |
b. Date of receipt : 16.03.2012
c. Date of acceptance : --
Crop (Taxonomical Lineage) : **Tetraploid Cotton** [*Gossypium hirsutum* L.]

Denomination : SVG04-75
Type of Variety : New Variety
Classification of Variety : Typical
Previously proposed Denomination : Not applicable
Name of Parental Material : HGMS-1 x SVH-09
Source of parental material : HGMS-1: CCS HAU, Hisar; SVH-09: Own Germplasm line
Name of Reference Varieties **:** JLH-168, MCU-10
Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Leaf: Shape	Palmate
Flower: Petal colour	Cream
Flower: Pollen colour	Yellow
Boll: Shape (longitudinal section)	Ovate
Fibre: Length(2.5% span length)(mm)	Long
B. Distinct Characteristics: SVG04-2440 has distinguishing character as Ginning %: **Very high**	
C. Reference variety: **JLH-168, MCU-10** has distinguishing character as Ginning %: **Medium**	
D. Date of commercialization of the variety	Not commercialization
E. Agronomic and commercial attributes	Adaptability, to change in agronomic conditions. SVG04-75 gave gave significantly higher seed cotton yield at all the locations of north and central zone. The row spacing of 67.5 x 30 cm was found to be optimum. Among the fertilizer does 100% RDF gave higher seed cotton yield. It is found resistance to lodging, shedding and responsive to fertilizer does. SVG04-75 is resistant to cotton leaf curl virus disease and tolerant to jassid and bollworm. It matures in 160-170 days. It has ovate boll shape, smooth surface, pointed prominence of tip, medium seed index, white fibre colour, long fibre length, medium strength, excellent uniformity and very good maturity. As American cotton lint is being used as a major textile raw material and domestic purpose.

Photographs: (See figure 06)

7. Application No. | **N6** | **GA6** | **12** | **61** | filed on **16.03.2012** by **M/S Shakti Vardhak Hybrid Seeds Pvt Ltd, Tilak Bazar, Hisar-125001 (Haryana).** for a **New Variety** of crop **Diploid Cotton** [*Gossypium arboreum* (L.)] having denomination **SV-200,** 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 : **SV-200**
Applicant : **M/S Shakti Vardhak Hybrid Seeds Pvt Ltd**
Address of the Applicant : **Tilak Bazar, Hisar-125001 (Haryana).**

Nationality of Applicant : Indian
Application details
a. Number : **N6** | **GA6** | **12** | **61**
b. Date of receipt : 16.03.2012
c. Date of acceptance : --
Crop (Taxonomical Lineage) : **Diploid Cotton** [*Gossypium arboreum* (L.)]
Denomination : SV-200
Type of Variety : New Variety
Classification of Variety : Typical
Previously proposed Denomination : Not applicable
Name of Parental Material : GMS-1 x SV-45
Source of parental material : GMS-1: CCS HAU, Hisar; SV-45: Own Germplasm line
Name of Reference Varieties **:** AKA-7
Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Leaf: Shape	Digitate (okra)
Flower: Petal colour	Cream
Flower: Pollen colour	Yellow
Boll: Shape (longitudinal section)	Ovate
Fibre: Length (2.5 % span length)(mm)	Medium
B. Distinct Characteristics: SV-200 has distinguishing character as Fibre: Length (2.5 % span length)(mm): **Medium**	
C. Reference variety: **AKA-7** has distinguishing character as Fibre: Length (2.5 % span length)(mm): **Medium long**	
D. Date of commercialization of the variety	
E. Agronomic and commercial attributes	Adaptability to change in agronomic conditions. SV-200 gave significantly higher seed cotton yield at all the different locations. The row spacing of 67.5 x 30 cm was found to be optimum. Among the fertilizer does 100% RDF gave higher seed cotton yield. It is found resistance to lodging, shedding and responsive to fertilizer does.

	However, SV-200 was found resistant to bacterial leaf blight disease, comparatively tolerant to fusarium wilt, root rot, fungal foliar leaf spot diseases and tolerant to jassid and bollworms. Genotype SV-200 found to be non-shedding of kapas and matures in 160-165 days. It has elliptic boll shape, pitted surface, pointed prominence of tip, large boll weight, very high ginning out turn with medium fuzzy grey seed, white fibre large boll weight, very high ginning out turn with medium fuzzy grey seed, white fibre colour and desired fibre properties, Arboreum cotton is grown for lint which is used as major textile raw material, surgical and domestic purpose.

Photographs: (See figure 07)

8. Application No. | **E289** | **GH122** | **08** | **399** | filed on 10.07.2008 by **Bayer Bioscience Pvt. Ltd, 8-1-39, Qutub Shahi Tombs Roads, Tolichowki, Hyderabad-500008, A.P. India** for a **Extant** (Variety of Common Knowledge) of crop **Tetraploid Cotton** [*Gossypium hirsutum* L.] having denomination **BCT 3501** 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 **: BCT 3501**
Applicant : **Bayer Bioscience Pvt. Ltd**
Address of the Applicant : 8-1-39, Qutub Shahi Tombs Roads, Tolichowki, Hyderabad-500008, A.P. India

Nationality of Applicant : Indian
Application details

a. Number	**E289** | **GH122** | **08** | **399**
b. Date of receipt	: 10.07.2008
c. Date of acceptance	: --

Crop (Taxonomical Lineage) : **Tetraploid Cotton** [*Gossypium hirsutum* L.]
Denomination : BCT 3501
Type of Variety : Extant (Variety of Common Knowledge)
Classification of Variety : Hybrid Variety
Previously proposed : Not applicable

Denomination

Name of Parental Material : H 318 X C 1035

Source of parental material : Candidate Variety is developed by Bayer BioScience Cotton Farms at Aurangabad and Hyderabad

Name of Reference Varieties **:** JLH-168, MCU-10

Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Leaf: Shape	Palmate
Flower: Petal colour	Cream
Flower: Pollen colour	Yellow
Boll: Shape (longitudinal section)	Ovate
Fibre: Length(2.5% span length)(mm)	Long
B. Distinct Characteristics: SVG04-2440 has distinguishing character as Fibre: Length (2.5 % span length)(mm): **Long**	
C. Reference variety: **JLH-168, MCU-10** has distinguishing character as Fibre: Length (2.5 % span length)(mm): **Medium long**	
D. Date of commercialization of the variety	15/05/2001
E. Agronomic and commercial attributes	BCT3501 is an *intra hirsutum* cotton hybrid developed for cultivation in the states of Maharashtra, Andhra Pradesh and Katnataka. It is normally recommended for sowing at the onset of monsoon in these regions in the month of June with provision of support irrigation during critical stages of crop growth. The hybrid is characterized by medium tall height, semi-spreading open plant structure suitable for sowing at a spacing of 120 x 75 cm or 90 x 90 cm spacing. Leaves are broad, palmate, dark green and sparsely hairy. The recommended fertilizer dose for this hybrid is 100:50:50 kg NPK per ha. Along with the basal dose of fertilizers, it is recommended to apply micro-nutrients to the crop. The hybrid is characterized by round big boll and very fluffy opening thereby facilitating easy picking. This is fertilizer responsive hybrid and has good bearing potential. It possesses long staple fibre that fetch good market price.

Photographs: (See figure-8)

9. Application No. | **E15** | **LL15** | **11** | **41** | filed on **04.01.2011** by **Maharashtra Hybrid Seeds Company Limited, Resham Bhavan, 4th Floor, 78, Veer Nariman Road, Mumbai-400020, Maharashtra.** for a **Extant(VCK) Variety** of crop **Tomato** [*Lycopersicon lycopersicum* (L.)] having denomination **MHTM 256,** 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 : **MHTM 256**
Applicant : **Maharashtra Hybrid Seeds Company Limited**
Address of the Applicant : Resham Bhavan, 4th Floor, 78, Veer Nariman Road, Mumbai-400020, Maharashtra.

Nationality of Applicant : Indian
Application details
a. Number : **E15** | **LL15** | **11** | **41**
b. Date of receipt : 04.01.2011
c. Date of acceptance : --
Crop (Taxonomical Lineage) : Tomato [*Lycopersicon lycopersicum* (L.)]
Denomination : MHTM 256
Type of Variety : Extant (VCK)
Classification of Variety : Hybrid
Previously proposed Denomination : Not applicable
Name of Parental Material : T 465 x T 1363
Source of Parental material **: Not Provided**
Name of Reference Varieties **:** JT-3, Azad T-2.
Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Plant : Growth type	Determinate
Leaf : Serration	Less serrated
Fruit : Green shoulder	Absent
Fruit : Shape in longitudinal section	Circular
Fruit : Colour at maturity	Red
B. Distinct Characteristics: MHTM 256 has distinguishing character as Fruit: Ribbing at peduncle end: **Medium**	

C. Reference variety: **JT-3** has distinguishing character as Fruit: Ribbing at peduncle end: **Weak** **Azad T-2** has distinguishing character as Fruit: Ribbing at peduncle end: **Absent**

D. Date of commercialization of the variety	04/12/2003
E. Agronomic and commercial attributes	First marketable produce after transplanting (days): 60-65, Fruit Shape: Flat round to round, Average Fruit Weight (g): 80-90 Grams, Seed content: High, Transportability: Medium, Fruit Color (after ripening): Red (42A), Disease Reaction: Bacterial wilt and Moderate ToLCV tolerant.

Photographs: (See figure-9)

10. Application No | **E76** | **PV3** | **08** | **88** | filed on **07.01.2008** by **Indian Council of Agricultural Research(ICAR), Krishi Bhawan, Dr. Rajendra Prasad Road, New Delhi-110012.** for a **Extant (VCK) Variety** of crop **Kidney bean** [*Phaseolus vulgaris* L.] having denomination **Arka Bold,** 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 : **ARKA BOLD**
Applicant : **Indian Council of Agricultural Research**
Address of the Applicant : Krishi Bhawan, Dr. Rajendra Prasad Road,
New Delhi-110012.

Nationality of Applicant : Indian
Application details
a. Number : | **E76** | **PV3** | **08** | **88** |
b. Date of receipt : 07.01.2008
c. Date of acceptance : --
Crop (Taxonomical Lineage) : **Kidney bean** [*Phaseolus vulgaris* L.]
Denomination : Arka Bold
Type of Variety : Extant (VCK)
Classification of Variety : Typical
Previously proposed : Not applicable
Denomination :
Name of Parental Material : Pure line Selection from the germplasm accession IIHR 220
Source of Parental material : Not provided
Name of Reference Varieties : Arka Komal, PDR-14 and HUR-137

Variety Description:

A. Group Characteristics	**Remarks measured values, example varieties, etc.**
Time of flowering	Early
Plant: Habit	Determinate
Pod: Colour	Green
Seed : Testa colour	Not express
B. Distinct Characteristics: ARKA BOLD has distinguishing character as Flower: Colour of standard petal: **White,** Pod: Shape of cross section (through seed): **Oval**	

C. Reference variety: ARKA BOLD has distinguishing character as Flower: Colour of standard petal: **Violet,** Pod: Shape of cross section (through seed): **Oval**

PDR-14 has distinguishing character as Flower: Colour of standard petal: **White,** Pod: Shape of cross section (through seed): **Circular**

HUR-137 has distinguishing character as Flower: Colour of standard petal: **White,** Pod: Shape of cross section (through seed): **Circular**

D. Date of commercialization of the variety	08/07/2002
E. Agronomic and commercial attributes	**Agronomic attributes**: Plants bushy and photo insensitive. Pods flat and stringless, fleshy, crisp, extra large (1.6cm) and medium long. Resistant to rust. Ridges and furrows to be made at 60 cm spacing and 250 kg neem cake per hectare is applied while forming ridges. Fertilizer does of 60 kg N, 50 kg P_2O_5 and 70 kg K/ha is recommended. 35-40 kg seed per hectare is required. Seeds are dibbled at a distance of 10 cm within the row. Pod yield 15 t/ha in 70 days. **commercial attributes:** Green, flat and tender pods are consumed as vegetable.

Photographs: (See figure-10)

Photographs of candidate varieties notified in Plant Variety Journal of India, Vol.-10, No.-02, FEBRUARY 05, 2016

Diploid Cotton / SV-318	**Diploid Cotton /SV-202**
	
Figure 01: Leaf Nectaries: Present	Figure 02: Elliptic boll shape
Diploid Cotton /SV-45	**Tetraploid cotton/SVH-8**
	
Figure 03: Digitate leaf & present Nectaries	Figure 04: Flower: cream petal

Tetraploid cotton /SVG04-2440	**Tetraploid cotton /SVG04-75**
	
Figure 05: Bract type normal	Figure 06: Ovate boll shape
Diploid cotton/SV-200	**Tetraploid cotton /BCT 3501**
	
Figure 07: Digitate leaf	Figure 08: Flower petal cream & Anther Yellow

Tomato/MHTM 256	Kidney bean/ARKA BOLD
	 French bean variety Arka Bold in pod bearing stage
Figure 09: Fruit Shape(LS): Circular	Figure 10: General view of plant