

DUS (Distinctness uniformity and stability) TESTS CHARACTERISTICS OF LATEST BRRI RELEASED RICE VARIETIES

(BRRI dhan 51-BRRI dhan-77)













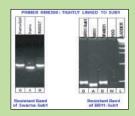












Integrated Agricultural Productivity Project-SCA Part



DUS (Distinctness uniformity and stability) TESTS CHARACTERISTICS OF LATEST BRRI RELEASED RICE VARIETIES

(BRRI dhan 51-BRRI dhan-77)

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PREFACE

It is very important to identify and distinguish crop varieties precisely for protecting biopiracy. Nowadays, Intellectual Property Rights (IPR) is a burning issue and variety protection has got more and more importance Worldwide. Like other Notified crops, rice varieties are also being indentified and distinguished by DUS (Distinctness, Uniformity and Stability) tests in Bangladesh. In DUS tests, some morphology and physico-chemical property based data are documented. These data are very useful for identification and distinguishing variety from each other.

Seed Certification Agency (SCA) is the leading organization for DUS test activities. In the Seed Rules, 1998; 6(i), function of SCA is to 'carry out varietal description activities as a part of DUS (Distinctness Uniformity and Stability) tests, and co-ordinate and organize multiplication trials for performance testing of varieties (VCU: Value for Cultivation and Uses)'. We also took photographs of important traits for quick identification visually. Finally we documented all the data in this publication and named the booklet 'DUS (Distinctness uniformity and stability) tests characteristics of latest BRRI released rice Varieties'.

This manuscript has got published due to active participants and coordination of variety testing personnel of SCA. We express our deepest gratitude to all the personnel who directly or indirectly help us to produce this booklet. We expect it would serve as an important document to provide necessary information to SCA personnel, researchers and other stakeholders. We duly acknowledged the financial support from GAFSP funded project 'Integrated Agricultural Productivity Project (IAPP)' for publishing this booklet. I give special thanks to Md. Mehar Ali (Ad. field Adm, planning & monitoring) for his full co-operation to prepare this booklet.

S. M. Sirajul Islam
Director

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SI No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Dark Green	3
3	Penultimate leaf: pubescence of blade	Strong or hair on the leaf blade	7
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Erect (<30)	1
8	Time of heading (50% of pts with heads)	Very late (>120 days)	9
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Weak	3
11	Lemma & palea: antho. color below apex	Weak	3
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Medium (5.1-6.0mm)	3
15	Stem: Culm Length	Short (41-60cm)	3
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Medium (21-25cm)	5
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Medium (6-10)	5
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Partly to just exerted	3-5
29	Time of maturity	Very late (>150 days)	9
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	Medium (20-23g)	5
31	Grain: length (without dehulling)	Medium (7.1-8.0mm)	5
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Medium (5.6-6.5mm)	3
34	Leaf senescence	Late and slow (2 or more leaves retain green color at maturity)	1
35	Decorticated grain: shape (L/B ratio)	Medium slender (L:W=2.6-3.0)	7
36	Decorticated unpolished grain: color	Light brown	2
37	Polished grain: size of white core or chalkiness	Absent or very small	1
38	Endosperm: content of amylose	High (>25%)	5
39	Decorticated grain: aroma	Absent	1
40	Any other character	Submergence tolerent	0

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Medium or hairs on the upper portion of the leaf	5
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Intermediate or semi-erect (30-45)	3
8	Time of heading (50% of pts with heads)	Late (106-120 days)	7
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Large (6.1-7.0mm)	5
15	Stem: Culm Length	Long (81-110cm)	7
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Medium (21-25cm)	5
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Medium (6-10)	5
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderately to just exerted	5-7
29	Time of maturity	Late (136-150 days)	7
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	High (24-27g)	7
31	Grain: length (without dehulling)	Long (8.1-9.0mm)	3
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Medium (5.6-6.5mm)	5
34	Leaf senescence	Intermidiate	5
35	Decorticated grain: shape (L/B ratio)	Medium (L:W=2.1-2.5)	2
36	Decorticated unpolished grain: color	Light brown	1
37	Polished grain: size of white core or chalkiness	Absent or very small	1
38	Endosperm: content of amylose	High (>25%)	1
39	Decorticated grain: aroma	Absent	1
40	Any other character	Submergence tolerent	0

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Present	9
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Medium or hairs on the upper portion of the leaf	5
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Erect (<30)	1
8	Time of heading (50% of pts with heads)	Late (106-120 days)	7
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Medium	5
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	Strong	7
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Medium (5.1-6.0mm)	3
15	Stem: Culm Length	Long (81-110cm)	7
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Long (26-30cm)	7
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Medium (6-10)	5
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Purple	5
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderately exerted	7
29	Time of maturity	Late (136-150 days)	7
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	Medium (20-23g)	5
31	Grain: length (without dehulling)	Long (8.1-9.0mm)	7
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	7
33	Decorticated grain: length (after dehulling, before milling)	Medium (5.6-6.5mm)	3
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Medium slender (L:W=2.6-3.0)	7
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Absent or very small	1
38	Endosperm: content of amylose	Intermediate (20-25%)	3
39	Decorticated grain: aroma	Absent	1
40	Any other character	Salt tolerent (8-10 dS/m)	0

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Medium or hairs on the upper portion of the leaf	5
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Erect (<30)	1
8	Time of heading (50% of pts with heads)	Medium (86-105 days)	5
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Very large (>7.0mm)	7
15	Stem: Culm Length	Long (81-110cm)	7
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Long (26-30cm)	7
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Medium (6-10)	5
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	White	1
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderately exerted	7
29	Time of maturity	Late (136-150 days)	7
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	High (24-27g)	7
31	Grain: length (without dehulling)	Medium (7.1-8.0mm)	5
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Medium (5.6-6.5mm)	3
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Medium (L:W=2.1-2.5)	5
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Small (<10%)	3
38	Endosperm: content of amylose	Intermediate(20-25%)	3
39	Decorticated grain: aroma	Absent	1
40	Any other character	Absent	0

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Dark Green	3
3	Penultimate leaf: pubescence of blade	Medium or hairs on the upper portion of the leaf	5
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Erect (<30)	1
8	Time of heading (50% of pts with heads)	Late (106-120 days)	7
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Medium (5.1-6.0mm)	3
15	Stem: Culm Length	Medium (61-80cm)	5
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Medium (21-25cm)	5
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Medium (6-10)	5
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	White	1
24	Panicle: awns in spikelet	Present	9
25	Panicle: length longest awn	very short	1
26b	Color of awns	Tip only	1
26a	Panicle: distribution of awns	Yellow white	1
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderately exerted	7
29	Time of maturity	Late (136-150 days)	7
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	Medium (20-23g)	5
31	Grain: length (without dehulling)	Very long (>9.0mm)	9
32	Spikelet: Sterile lemma length	Long (2.6-3.0mm)	5
33	Decorticated grain: length (after dehulling, before milling)	long	5
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Slender (L:W>3.0)	9
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Absent or very small	1
38	Endosperm: content of amylose	Intermediate(20-25%)	3
39	Decorticated grain: aroma	Absent	1
40	Any other character	Absent	0

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Weak or only on the margins	3
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Intermediate or semi-erect (30-45)	3
8	Time of heading (50% of pts with heads)	Medium (86-105 days)	5
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Medium	5
11	Lemma & palea: antho. color below apex	Medium	5
12	Lemma: antho. colouration of apex	Weak	3
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Medium (5.1-6.0mm)	3
15	Stem: Culm Length	Long (81-110cm)	7
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Medium (21-25cm)	5
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Many (>10)	7
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderately exerted	7
29	Time of maturity	Medium (116-135 days)	5
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	Medium (20-23g)	5
31	Grain: length (without dehulling)	Long (8.1-9.0mm)	7
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Medium (5.6-6.5mm)	3
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Medium slender (L:W=2.6-3.0)	7
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Absent or very small	1
38	Endosperm: content of amylose	Intermediate(20-25%)	3
39	Decorticated grain: aroma	Absent	1
40	Any other character	Absent	0

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Strong or hair on the leaf blade	7
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Intermediate or semi-erect (30-45)	3
8	Time of heading (50% of pts with heads)	Early (70-80 days)	3
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Medium (5.1-6.0mm)	3
15	Stem: Culm Length	Short (41-60cm)	3
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Medium (21-25cm)	5
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Many (>10)	7
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderately exerted	7
29	Time of maturity	Early (101-115 days)	3
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	Low (16-19g)	3
31	Grain: length (without dehulling)	Very long (>9.0mm)	9
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Long (6.6-7.5mm)	5
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Slender (L:W>3.0)	9
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Absent or very small	1
38	Endosperm: content of amylose	High (>25%)	5
39	Decorticated grain: aroma	Absent	1
40	Any other character	Absent	0

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Medium or hairs on the upper portion of the leaf	5
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Intermediate or semi-erect (30-45)	3
8	Time of heading (50% of pts with heads)	Late (106-120 days)	7
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Medium (5.1-6.0mm)	3
15	Stem: Culm Length	Medium (61-80cm)	5
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Medium (21-25cm)	5
20	Panicle: curvature of main axis	Strong	7
21	Panicle: no. of effective tillers in plant	Many (>10)	7
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderately exerted	7
29	Time of maturity	Late (136-150 days)	7
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	Medium (20-23g)	5
31	Grain: length (without dehulling)	Long (8.1-9.0mm)	7
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Medium (5.6-6.5mm)	3
34	Leaf senescence	Late and slow (2 or more leaves retain green color at maturity)	1
35	Decorticated grain: shape (L/B ratio)	Medium slender (L:W=2.6-3.0)	7
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Absent or very small	1
38	Endosperm: content of amylose	High (>25%)	5
39	Decorticated grain: aroma	Absent	1
40	Any other character	Absent	1

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Medium or hairs on the upper portion of the leaf	5
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Erect (<30)	1
8	Time of heading (50% of pts with heads)	Very late (>120 days)	9
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Medium (5.1-6.0mm)	3
15	Stem: Culm Length	Short (41-60cm)	3
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Medium (21-25cm)	5
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Many (>10)	7
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Just exerted	5
29	Time of maturity	Very late (>150 days)	9
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	Medium (20-23g)	5
31	Grain: length (without dehulling)	Medium (7.1-8.0mm)	5
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Medium (5.6-6.5mm)	3
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Medium (L:W=2.1-2.5)	5
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Small (<10%)	3
38	Endosperm: content of amylose	Intermediate(20-25%)	3
39	Decorticated grain: aroma	Absent	1
40	Any other character	Absent	0

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Absent or very week	1
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Intermediate or semi-erect (30-45)	3
8	Time of heading (50% of pts with heads)	Very late (>120 days)	9
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Medium (5.1-6.0mm)	3
15	Stem: Culm Length	Medium (61-80cm)	5
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Medium	5
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Many (>10)	7
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderately exerted	7
29	Time of maturity	Very late (>150 days)	9
30	Grain: wt. of 1000 fully developed grains (at 12% MC)		5
31	Grain: length (without dehulling)	Very long (>9.0mm)	9
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Long (6.6-7.5mm)	5
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Slender (L:W>3.0)	9
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Absent or very small	1
38	Endosperm: content of amylose	Intermediate(20-25%)	3
39	Decorticated grain: aroma	Absent	1
40	Any other character	Absent	0

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Present	9
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Medium or hairs on the upper portion of the leaf	5
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Erect (<30)	1
8	Time of heading (50% of pts with heads)	Late (106-120 days)	7
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	Strong	7
13	Spikelet: color of stigma	Purple	5
14	Stem: Culm diameter	Medium (5.1-6.0mm)	3
15	Stem: Culm Length	Medium (61-80cm)	5
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Medium (21-25cm)	5
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Many(>10)	7
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Purple	5
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderately exerted	7
29	Time of maturity	Late (136-150 days)	7
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	Medium (20-23g)	5
31	Grain: length (without dehulling)	Long (8.1-9.0mm)	7
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Medium (5.6-6.5mm)	3
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Medium slender (L:W=2.6-3.0)	7
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Absent or very small	1
38	Endosperm: content of amylose	Intermediate(20-25%)	3
39	Decorticated grain: aroma	Absent	1
40	Any other character	Salt Tolerant	0

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Weak or only on the margins	3
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Intermediate or semi-erect (30-45)	3
8	Time of heading (50% of pts with heads)	Early (70-80 days)	3
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Small (<5.0mm)	1
15	Stem: Culm Length	Medium (61-80cm)	5
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Medium (21-25cm)	5
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Many (>10)	7
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Well exerted	9
29	Time of maturity	Early (101-115 days)	3
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	High (24-27g)	7
31	Grain: length (without dehulling)	Very long (>9.0mm)	9
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Long (6.6-7.5mm)	5
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Slender (L:W>3.0)	9
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Absent or very small	1
38	Endosperm: content of amylose	Intermediate (20-25%)	3
39	Decorticated grain: aroma	Absent	1
40	Any other character	Present (Zinc enriched)	0

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Weak or only on the margins	3
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Erect (<30)	1
8	Time of heading (50% of pts with heads)	Very late (>120 days)	9
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Small (<5.0mm)	1
15	Stem: Culm Length	Short (41-60cm)	3
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Medium (21-25cm)	5
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Many (>10)	7
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Just exerted	5
29	Time of maturity	Very late (>150 days)	9
30	Grain: wt. of 1000 fully developed grains (at 12% MC)		5
31	Grain: length (without dehulling)	Very long (>9.0mm)	9
32	Spikelet: Sterile lemma length	Long (2.6-3.0mm)	5
33	Decorticated grain: length (after dehulling, before milling)	Very long (>7.5mm)	7
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Slender (L:W>3.0)	9
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Absent or very small	1
38	Endosperm: content of amylose	Intermediate(20-25%)	3
39	Decorticated grain: aroma	Absent	1
40	Any other character	Absent	0

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Strong or hair on the leaf blade	7
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Erect (<30)	1
8	Time of heading (50% of pts with heads)	Very late (>120 days)	9
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Medium (5.1-6.0mm)	3
15	Stem: Culm Length	Medium (61-80cm)	5
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Medium (21-25cm)	5
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Medium (6-10)	5
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderate to Well exerted	7-9
29	Time of maturity	Very late (>150 days)	9
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	High (24-27g)	7
31	Grain: length (without dehulling)	Medium (7.1-8.0mm)	5
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Medium (5.6-6.5mm)	3
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Bold (L:W=1.5-2.0)	3
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Medium (10-20%)	5
38	Endosperm: content of amylose	High (>25%)	5
39	Decorticated grain: aroma	Absent	1
40	Any other character	Present (Zinc enriched)	0

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Absent or very week	1
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Erect (<30)	1
8	Time of heading (50% of pts with heads)	Early (70-80 days)	3
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Small (<5.0mm)	1
15	Stem: Culm Length	Short (41-60cm)	3
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Medium (21-25cm)	5
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Medium (6-10)	5
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderately exerted	7
29	Time of maturity	Early (101-115 days)	3
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	Medium (20-23g)	5
31	Grain: length (without dehulling)	Long (8.1-9.0mm)	7
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Long (6.6-7.5mm)	5
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Slender (L:W>3.0)	9
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Absent or very small	1
38	Endosperm: content of amylose	High (>25%)	5
39	Decorticated grain: aroma	Absent	1
40	Any other character	Absent	0

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Medium or hairs on the upper portion of the leaf	5
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Intermediate or semi-erect (30-45)	3
8	Time of heading (50% of pts with heads)	Medium (86-105 days)	5
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Medium (5.1-6.0mm)	3
15	Stem: Culm Length	Long (81-110cm)	7
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Long (26-30cm)	7
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Medium (6-10)	5
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderately exerted	7
29	Time of maturity	Medium (116-135 days)	5
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	High (24-27g)	7
31	Grain: length (without dehulling)	Long (8.1-9.0mm)	7
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Medium (5.6-6.5mm)	3
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Medium slender (L:W=2.6-3.0)	7
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Absent or very small	1
38	Endosperm: content of amylose	Intermediate(20-25%)	3
39	Decorticated grain: aroma	Absent	1
40	Any other character	Absent	0

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Medium or hairs on the upper portion of the leaf	5
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Intermediate or semi-erect (30-45)	3
8	Time of heading (50% of pts with heads)	Late (106-120 days)	7
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Medium (5.1-6.0mm)	3
15	Stem: Culm Length	Long (81-110cm)	7
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Medium (21-25cm)	5
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Many (>10)	7
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderately exerted	7
29	Time of maturity	Late (136-150 days)	7
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	Medium (20-23g)	5
31	Grain: length (without dehulling)	Long (8.1-9.0mm)	7
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Medium (5.6-6.5mm)	3
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Medium slender (L:W=2.6-3.0)	7
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Absent or very small	1
38	Endosperm: content of amylose	Intermediate(20-25%)	3
39	Decorticated grain: aroma	Absent	1
40	Any other character	Salt tolerant	0

SI No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Medium or hairs on the upper portion of the leaf	5
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Erect (<30)	1
8	Time of heading (50% of pts with heads)	Late (106-120 days)	7
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Medium (5.1-6.0mm)	3
15	Stem: Culm Length	Medium (61-80cm)	5
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Medium (21-25cm)	5
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Many (>10)	7
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderately exerted	7
29	Time of maturity	Late (136-150 days)	7
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	High (24-27g)	7
31	Grain: length (without dehulling)	Long (8.1-9.0mm)	7
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Long (6.6-7.5mm)	5
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Medium slender (L:W=2.6-3.0)	7
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Medium (10-20%)	5
38	Endosperm: content of amylose	High (>25%)	5
39	Decorticated grain: aroma	Absent	1
40	Any other character	Absent	0

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Medium or hairs on the upper portion of the leaf	5
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Erect (<30)	1
8	Time of heading (50% of pts with heads)	Late (106-120) days	7
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Large (6.1-7.0mm)	5
15	Stem: Culm Length	Medium (61-80cm)	5
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Medium (21-25cm)	5
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Many (>10)	7
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderately exerted	7
29	Time of maturity	Late (136-150) days	7
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	Medium (20-23g)	5
31	Grain: length (without dehulling)	Long (8.1-9.0mm)	7
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Medium (5.6-6.5mm)	3
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Medium Slender	7
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Absent or very small	1
38	Endosperm: content of amylose	Intermediate	3
39	Decorticated grain: aroma	Absent	1
40	Any other character	Absent	0

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Present	9
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Absent or very week	1
4	P. leaf: antho. color of auricles & collar	Present	9
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Intermediate or semi-erect (30-45)	3
8	Time of heading (50% of pts with heads)	Medium (86-105 days)	5
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	Purple	5
14	Stem: Culm diameter	Large (6.1-7.0mm)	5
15	Stem: Culm Length	Very long (>110cm)	9
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Long (26-30cm)	7
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Medium (6-10)	5
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Red	4
24	Panicle: awns in spikelet	Present	9
25	Panicle: length longest awn	Very short (<2mm)	1
26b	Color of awns	Reddish	5
26a	Panicle: distribution of awns	Tip only	1
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Well exerted	9
29	Time of maturity	Medium (116-135 days)	5
30	Grain: wt. of 1000 fully developed grains (at 12% MC)		5
31	Grain: length (without dehulling)	Very long (>9.0mm)	9
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Long (6.6-7.5mm)	5
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Slender (L:W>3.0)	9
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Absent or very small	1
38	Endosperm: content of amylose	Intermediate(20-25%)	3
39	Decorticated grain: aroma	Lightly present	5
40	Any other character	Absent	0

SI No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Weak or only on the margins	3
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Intermediate or semi-erect (30-45°)	3
8	Time of heading (50% of pts with heads)	Early (70-80 days)	3
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Medium (5.1-6.0mm)	3
15	Stem: Culm Length	Long (81-110cm)	7
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Medium (21-25cm)	5
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Medium (6-10)	5
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderately exerted	7
29	Time of maturity	Early (101-115 days)	3
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	High (24-27g)	7
31	Grain: length (without dehulling)	Very long (>9.0mm)	9
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Medium (5.6-6.5mm)	3
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Medium slender (L:W=2.6-3.0)	7
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Absent or very small	1
38	Endosperm: content of amylose	Intermediate(20-25%)	3
39	Decorticated grain: aroma	Absent	1
40	Any other character	Absent	0

SI No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Medium or hairs on the upper portion of the leaf	5
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Erect (<30)	1
8	Time of heading (50% of pts with heads)	Medium (86-105 days)	5
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Large (6.1-7.0mm)	5
15	Stem: Culm Length	Long (81-110cm)	7
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Long (26-30cm)	7
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Medium (6-10)	5
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	Present	9
25	Panicle: length longest awn	Short (2-5mm)	3
26b	Color of awns	Yellow white	1
26a	Panicle: distribution of awns	Tip only	1
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Just exerted	5
29	Time of maturity	Medium (116-135 days)	5
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	Very high (>27g)	9
31	Grain: length (without dehulling)	Very long (>9.0mm)	9
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Long (6.6-7.5mm)	5
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Medium slender (L:W=2.6-3.0)	7
36	Decorticated unpolished grain: color	Light brown	2
37	Polished grain: size of white core or chalkiness	Absent or very small	1
38	Endosperm: content of amylose	High (>25%)	5
39	Decorticated grain: aroma	Absent	1
40	Any other character	Absent	0

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Medium or hairs on the upper portion of the leaf	5
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Erect (<30)	1
8	Time of heading (50% of pts with heads)	Medium (86-105 days)	5
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Medium (5.1-6.0mm)	3
15	Stem: Culm Length	Long (81-110cm)	7
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Long (26-30cm)	7
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Medium (6-10)	5
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	Present	9
25	Panicle: length longest awn	Very short (<2mm)	1
26b	Color of awns	Yellow white	1
26a	Panicle: distribution of awns	Tip only	1
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Just to Moderately exerted	5-7
29	Time of maturity	Medium (116-135 days)	5
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	Medium (20-23g)	7
31	Grain: length (without dehulling)	Long (8.1-9.0mm)	3
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Medium (5.6-6.5mm)	5
34	Leaf senescence	Intermediate	7
35	Decorticated grain: shape (L/B ratio)	Medium slender (L:W=2.6-3.0)	1
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Absent or very small	5
38	Endosperm: content of amylose	High (>25%)	1
39	Decorticated grain: aroma	Absent	0
40	Any other character	Absent	

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Weak or only on the margins	3
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Erect (<30)	1
8	Time of heading (50% of pts with heads)	Late (106-120 days)	7
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Medium (5.1-6.0mm)	3
15	Stem: Culm Length	Medium (61-80cm)	5
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Medium (21-25cm)	5
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Many (>10)	7
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderately exerted	7
29	Time of maturity	Late (136-150 days)	7
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	Very high (>27g)	9
31	Grain: length (without dehulling)	Long (8.1-9.0mm)	7
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Medium (5.6-6.5mm)	3
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Medium slender (L:W=2.6-3.0)	7
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Medium (10-20%)	5
38	Endosperm: content of amylose	High (>25%)	5
39	Decorticated grain: aroma	Absent	1
40	Any other character	Present (Zinc enriched=24.2mg/kg)	0

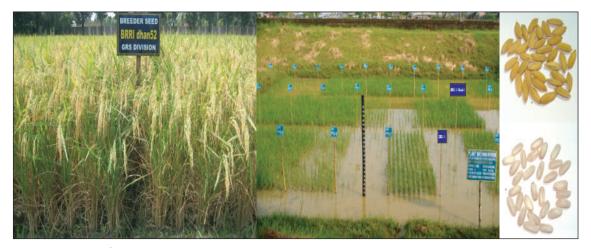
Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Medium or hairs on the upper portion of the leaf	5
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Intermediate or semi-erect (30-45)	3
8	Time of heading (50% of pts with heads)	Early (70-80 days)	3
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Large (6.1-7.0mm)	5
15	Stem: Culm Length	Medium (61-80cm)	5
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Medium (21-25cm)	5
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Many (>10)	7
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderately to Well exerted	7-9
29	Time of maturity	Early (101-115 days)	3
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	Medium (20-23g)	5
31	Grain: length (without dehulling)	Long (8.1-9.0mm)	7
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Medium (5.6-6.5mm)	3
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Slender (L:W>3.0)	9
36	Decorticated unpolished grain: color	White	1
37	Polished grain: size of white core or chalkiness	Absent or very small	1
38	Endosperm: content of amylose	Intermediate(20-25%)	3
39	Decorticated grain: aroma	Absent	1
40	Any other character	Absent	0

SI No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Medium or hairs on the upper portion of the leaf	5
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Erect (<30)	1
8	Time of heading (50% of pts with heads)	Very late (>120 days)	9
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Large (6.1-7.0mm)	5
15	Stem: Culm Length	Very long (>110cm)	9
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Very long (>30cm)	9
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Medium (6-10)	5
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderately exerted	7
29	Time of maturity	Very late (>150 days)	9
30	Grain: wt. of 1000 fully developed grains (at 12% MC)	High (24-27g)	7
31	Grain: length (without dehulling)	Medium (7.1-8.0mm)	5
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Medium (5.6-6.5mm)	3
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Medium (L:W=2.1-2.5)	5
36	Decorticated unpolished grain: color	Light brown	2
37	Polished grain: size of white core or chalkiness	Small (<10%)	3
38	Endosperm: content of amylose	High (>25%)	5
39	Decorticated grain: aroma	Absent	1
40	Any other character	Absent	0

Sl No	Characteristics	Status	Code
1	Leaf sheath: anthocyanin color	Absent	1
2	Leaf color	Green	2
3	Penultimate leaf: pubescence of blade	Medium or hairs on the upper portion of the leaf	5
4	P. leaf: antho. color of auricles & collar	Absent	1
5	Penultimate leaf: ligule	Present	9
6	Penultimate leaf: shape of the ligule	Split or two-cleft	3
7	Flag leaf: attitude of blade	Erect (<30)	1
8	Time of heading (50% of pts with heads)	Late (106-120 days)	7
9	Male sterility	Absent	0
10	Lemma & palea: anthocyanin color	Absent or very weak	1
11	Lemma & palea: antho. color below apex	Absent or very weak	1
12	Lemma: antho. colouration of apex	absent or very weak	1
13	Spikelet: color of stigma	White	1
14	Stem: Culm diameter	Large (6.1-7.0mm)	5
15	Stem: Culm Length	Very long (>110cm)	9
16	Stem: anthocyanin colouration of nodes	Absent	1
17	Stem: Intensity of antho colour of nodes	Absent	0
18	Stem: antho. coloration of internodes	Absent or very weak	1
19	Panicle: length	Long (26-30cm)	7
20	Panicle: curvature of main axis	Medium	5
21	Panicle: no. of effective tillers in plant	Medium (6-10)	5
22	Spikelet: Pubescence of lemma & palea	strong	7
23	Spikelet: color of tip of lemma	Yellowish	2
24	Panicle: awns in spikelet	absent	1
25	Panicle: length longest awn	Absent	0
26b	Color of awns	Absent	0
26a	Panicle: distribution of awns	Absent	0
27	Panicle: attitude of branches	Semi-errect	3
28	Panicle: exertion	Moderately exerted	7
29	Time of maturity	Late (136-150 days)	7
30	Grain: wt. of 1000 fully developed grains (at 12% MC)		9
31	Grain: length (without dehulling)	Long (8.1-9.0mm)	7
32	Spikelet: Sterile lemma length	Medium (1.5-2.5mm)	3
33	Decorticated grain: length (after dehulling, before milling)	Medium (5.6-6.5mm)	3
34	Leaf senescence	Intermediate	5
35	Decorticated grain: shape (L/B ratio)	Medium (L:W=2.1-2.5)	5
36	Decorticated unpolished grain: color	Variegated brown	3
37	Polished grain: size of white core or chalkiness	Medium (10-20%)	5
38	Endosperm: content of amylose	High (>25%)	5
39	Decorticated grain: aroma	Absent	1
40	Any other character	Absent	0



BRRI dhan51



BRRI dhan52



BRRI dhan53



BRRI dhan54



BRRI dhan55



BRRI dhan56



BRRI dhan57



BRRI dhan58



BRRI dhan59



BRRI dhan60



BRRI dhan61



BRRI dhan62



BRRI dhan63



BRRI dhan64



BRRI dhan65



BRRI dhan66



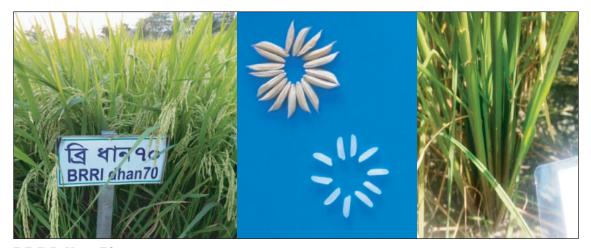
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BRRI dhan72



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BRRI dhan77