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Supplementary Table 1. The list of genotypes with their pedigree and sources

Genotype NO	Genotypes	Pedigree	Sources	Grain Type
G1	RP 6616-CGR 15	BPT 5204*2 / Oryza rufipogon (VN 90- 1032-58 (3)	AICRP on Rice	MB
G2	Jaya	TN 1 x T-141	AICRP on Rice	SB
G3	BMDK-2-2-8-2	KMLT 4 / KPR-2	AICRP on Rice	MB
G4	JR 11-1	Kranti / Danteshwari	AICRP on Rice	MB
G5	PNPG 114	PNP 115/PNP 310	AICRP on Rice	SB
G6	RNR 31753	CT 18615-1-5-1-2-1 / MTU 1010	AICRP on Rice	LS
G7	RDR-3608	MTU 1075 / MTU 1010	AICRP on Rice	LS
G8	KAU-PTB-0627-2-24-1	Swetha / Kuruka	AICRP on Rice	SB
G9	RP 5976-78-26-6-2	Improved Samba Mahsuri / Wazuhophek	AICRP on Rice	SB
G10	RAU 710-99-22-1	Sita / Katarni	AICRP on Rice	MS
G11	KNM 12445	KNM 1638 / IET 23993 // MTU 1156	AICRP on Rice	MS
G12	MTU 1375 (MTU 2658-13-1-1)	MTU 1075 / MTU 1001	AICRP on Rice	MS
G13	NDR 359	BG90-2-4/OB677	AICRP on Rice	LB
G14	TRC GTS 699-B-B-5-2	Gomati / Tripura Sharat	AICRP on Rice	LS
G15	RP 6696-MASC-29-37	[BC2F12 [PR114 / O. longistaminata (104301A) // 2*PR114] / IR 64	AICRP on Rice	LB
G16	ACM 20003	Mutant of Anna (R) 4	AICRP on Rice	LS
G17	ACK 20002	Mutant of CR 1009 (Early)	AICRP on Rice	SB
G18	HUR 22-4	HUBR 10-9 / HUBR 16-6-1-2	AICRP on Rice	LS
G19	CRAC 3998-104-2-2	Doubled haploid of 27P63	AICRP on Rice	MB
G20	CR 4379-13-1-1-1-1-1	CR Dhan 307 / MTU 1010	AICRP on Rice	LS

G21	HURS-22-1	NDR97 / HUR105	AICRP on Rice	LB
G22	KAU-PTB-0615-15-16-8	Pranava / Chettadi	AICRP on Rice	LB
G23	RP 6246-7-44-33-55	Samba Mahsuri*3 / ST 12	AICRP on Rice	MS
G24	JGL 38206	JGL 24423 / MTU 365-32-1-1) / MTU 1121	AICRP on Rice	LB
G25	JR 13	MTU 1081 / NPT 26-1	AICRP on Rice	LS
G26	CR 4070-1311-1-1-4-6-5-1-1-3	IET 22704 / Pyari	AICRP on Rice	LS
G27	PRR 3013 / PS 7-12-7-8-3-2	Lalat / IR64	AICRP on Rice	LS
G28	IGP-13-12-19	IGP-13-12-19 (Pedigree Pusa 33-IR 28)	AICRP on Rice	LS
G29	C0-52	BPT 5204 / CO (R) 50	AICRP on Rice	SB
G30	RTN 15M6-52	Mutant of Super Basmati	AICRP on Rice	LS
G31	Pusa 5358-3-1-1-1-1-1	MTU 1010 / ET 2-12	AICRP on Rice	MS
G32	PRNP 10027	PRNP 101 / PRNP 127	AICRP on Rice	SB
G33	HKR 17-29	IR 58025A / IR 79253-19-3-3-5	AICRP on Rice	LS
G34	WGL 1791	WGL 1100 / JGL 19618	AICRP on Rice	LS
G35	CR 3856-1-8-1-1-1-2-1-1	IR 73963-86-1-5-2-2 / CR 2324-1	AICRP on Rice	LB
G36	RP 5976-45-30-12-16	Improved Samba Mahsuri / Wazuhophek	AICRP on Rice	SB
G37	RNR 39026	IR13G1138	AICRP on Rice	LS
G38	CR 4237-2-2-B-1	MTU 1010 / ARC 10063	AICRP on Rice	MS
G39	RP 5084-58-33-2-2-3-B	Sona / Malaysia	AICRP on Rice	SB
G40	JR 29	IR64 / Mahsuri 4500	AICRP on Rice	LS
G41	RP 6502-GSY-7-4-1-5	IET 27134 / IET 27296	AICRP on Rice	MS
G42	CR 3842-52-1-2-1-1	Gontra Bidhan / CR Dhan203	AICRP on Rice	LS
G43	CR 4376-1-1-1-2-2-1	CR 3553-15-1-1-1-1-1 / CR 3759-1-1-2-1-1	AICRP on Rice	MB
G44	NWGR 16058	NWGR 3119 / Pusa Basmati / 53-1-2-1-1-1-1	AICRP on Rice	MS
G45	BPT 3034	BPT 2231 / MTU 1075	AICRP on Rice	LB

G46	CB 19136	CB 05022 / CB 04044	AICRP on Rice	SB
G47	CR 4150-31-3-2-1	Swarna / ST 12 // Swarna / Habataki /// Swarna	AICRP on Rice	MS
G48	RCPR 87-RP5528-85	RP Bio-226 / IRGC 39111 // Samba Mahsuri *sub1*	AICRP on Rice	MS
G49	ORJ 1353 (TP 30606)	IIRON 43 Ent 10	AICRP on Rice	LS
G50	GNV 2188-1	Selection from traditional variety asaleeya	AICRP on Rice	LB
G51	R 2296-341-1-212-1	R1546-1328-1-40-1 / Samaleshwari	AICRP on Rice	MS
G52	2k13/14-524-1-1-6-5 (RYT 4036)	PR 121*2 // PR 121 / O.nivara (CR 100204)	AICRP on Rice	LS
G53	RP 6489-JB 88-13-1-1-1-1	WGL 14 / Improved Samba Mahsuri// WGL 14 / Rathuheenati /// WGL 14 / RP 5925-24 // WGL 14 / IR 96321-1- 1447-561-B-1 //// WGL 14 / IR 81896- 96-B-B-195	AICRP on Rice	MS
G54	BRR 2228	BRR 2028 / S.Shree	AICRP on Rice	SB
G55	WGL 1513	TNAU CO 50 / JGL 17183	AICRP on Rice	MS
G56	RP 6697-P.N.24-14	Gangavati Sona*2 / Improved Samba Mahsuri	AICRP on Rice	SB
G57	BKR 380	BPT 5204 / Karahni	AICRP on Rice	SB
G58	CRHR-156 (Hybrid)	-	AICRP on Rice	LS
G59	RRX-338 (Hybrid)	-	AICRP on Rice	LB
G60	RNR 28359	Bhadrakali / NSN 20894	AICRP on Rice	LB
G61	TRC H2TS 208-B-B-33-6	Hakuchuk 2 / Tripura Sarat	AICRP on Rice	LS
G62	NVSR 2968	GR 7 / GAR 13	AICRP on Rice	LB
G63	IGKV DH 105	Safri-17 / RP Bio 226	AICRP on Rice	SB
G64	MSN 116	KMR 3 / CR 2711-76 (10-1-B)	AICRP on Rice	SB
G65	BPT 3152	BPT 5204*2 / O.longistaminata // B95-1 / Swarna Sub-1	AICRP on Rice	MS
G66	Pusa 1824-12-84-17-7-2	Pusa 44/ PAU 201	AICRP on Rice	SB
G67	HRI-211	-	AICRP on Rice	LB

G68	HKR 16-58	HKR 48 / IRRI-DS-12	AICRP on Rice	LS
G69	CR 3856-44-22-2-1-11-4-1-1	IR 73963-86-1-5-2-2 / CR 2324-1	AICRP on Rice	SB
G70	HRI-209	-	AICRP on Rice	SB
G71	RP 5405-13-1-3-1-1-1-1	RP 5405: Swarna / IRGC 4105 //	AICRP on Rice	SB
G72	AD 17746	ADT (R)46 / AD 09495	AICRP on Rice	SB
G73	TRC CTSM 1723-B-B-32-1	CT 9993-5-10-1-M / 2 / BPT 5204	AICRP on Rice	SB
G74	JGL 34560	JGL 20171 / MTU 1075	AICRP on Rice	LB
G75	RRX-438	-	AICRP on Rice	LS
G76	HRI 174 (HC)	c112/mo13	AICRP on Rice	LB
G77	RP 6520-IR16A 4938 (R 107982-B-B RGA-134	IR 10F559 / IRRI 119	AICRP on Rice	MS
G78	RP 6488-MAID-1-180-119-1-1-1-1	Krishna Hamsa / IRBB60 // Krishna Hamsa / Tetep /// Krishna Hamsa / DSB2	AICRP on Rice	LS
G79	CR 3564-1-1-4-2-2-1	Vijetha / N22	AICRP on Rice	MB
G80	CR 4313-1-1-2-1-1-1	CR 3511-32 / CR 3561-31	AICRP on Rice	SB
G81	PAU 7021-10-1-1 (RYT 3951)	PR 122 / PR 123	AICRP on Rice	LS
G82	UPR 4397-10-1-1-1	Pant Dhan 16 / UPR 3778-17-2-1	AICRP on Rice	SB
G83	YNPG 114	NPG 10 / NPG 6	AICRP on Rice	SB
G84	OR 2546-5-1	OR 2006-23 / PSBRC 68	AICRP on Rice	LB
G85	Sahydri Kempumukthi	Jyothi / KPR-1 (Back cross derivative)	AICRP on Rice	LB
G86	W 33	ADT (R) 45 / 3/Wayrarem	Paddy Breeding Station, TNAU, Tamil Nadu	MS
G87	W 64	ADT (R) 45 / 3/Wayrarem	Paddy Breeding Station, TNAU, Tamil Nadu	LS
G88	W 225	ADT (R) 45 / 3/Wayrarem	Paddy Breeding Station, TNAU, Tamil Nadu	MS

G89	W 18-8-7	ADT (R) 45 / 3/Wayrarem	Paddy Breeding Station, TNAU, Tamil Nadu	MS
G90	W 7-4-1	ADT (R) 45 / 3/Wayrarem	Paddy Breeding Station, TNAU, Tamil Nadu	MS
G91	A 41	ADT (R) 45 / 3/APO	Paddy Breeding Station, TNAU, Tamil Nadu	MB
G92	A 67	ADT (R) 45 / 3/APO	Paddy Breeding Station, TNAU, Tamil Nadu	LS
G93	A 24	ADT (R) 45 / 3/APO	Paddy Breeding Station, TNAU, Tamil Nadu	LS
G94	I 127	ADT (R) 45 / 2/APO// ADT (R) 45/ Wayrarem	Paddy Breeding Station, TNAU, Tamil Nadu	MS
G95	I 92	ADT (R) 45 / 2/APO// ADT (R) 45/ Wayrarem	Paddy Breeding Station, TNAU, Tamil Nadu	MB
G96	I 33	ADT (R) 45 / 2/APO// ADT (R) 45/ Wayrarem	Paddy Breeding Station, TNAU, Tamil Nadu	MS
G97	I 45	ADT (R) 45 / 2/APO// ADT (R) 45/ Wayrarem	Paddy Breeding Station, TNAU, Tamil Nadu	MS
G98	I 69	ADT (R) 45 / 2/APO// ADT (R) 45/ Wayrarem	Paddy Breeding Station, TNAU, Tamil Nadu	MS
G99	I 85	ADT (R) 45 / 2/APO// ADT (R) 45/ Wayrarem	Paddy Breeding Station, TNAU, Tamil Nadu	MS
G100	I 140	ADT (R) 45 / 2/APO// ADT (R) 45/ Wayrarem	Paddy Breeding Station, TNAU, Tamil Nadu	LS
G101	IR 64 drt	IR 64 NIL	IIRR- Hyderabad	LS
G102	CT9993	CT 6241-2-2-1-3//Maravilha	Centro Internacional de Agricultura Tropical, Columbia	MS
G103	ANNA R4-1	Pantdhan 10 × IET 9911	Agricultural Research Station, Paramakudi, Tamil Nadu.	MS
G104	PMK (R) 3	UPLRI 7 × CO 43	Agricultural Research Station, Paramakudi, Tamil Nadu.	MB

G105	NORUNGAN	LANDRACES	Tamil Nadu.	MB
G106	TKM15	TKM 12/ IET 21620	Rice Research Station, Tirur; Tamil Nadu	SB
G107	WAYRAREM	IR 9669/B 981	IRRI, Philippines	MB
G108	APO	UPLRI 5 × IR 12979-24-1	IRRI, Philippines	MS
G109	ADT-45	IR 50 × ADT 37	Tamil Nadu Rice Research Institute – Aduthurai, Tamil Nadu	MS
G110	ADT-56	WGL 14377 / MDU 5	Tamil Nadu rice research institute – Aduthurai,Tamil Nadu	MS

Supplementary Table 2. Index ranks and scores of 110 genotypes across all indices

Sl.No	Genotype	MGIDI		GYT		Elston Index		LPSI	
		Score	Rank	Score	Rank	Score	Rank	Score	Rank
1	G1	7.32	6	15.14376	16	159542500	19	911.3343	29
2	G2	7.74	16	6.467434	33	11309090	48	790.7239	83
3	G3	6.17	2	74.07585	1	19370040000	1	1023.865	6
4	G4	9.94	107	-12.0583	82	40536	87	696.3451	107
5	G5	8.72	56	9.279361	28	26144700	43	908.1924	30
6	G6	9	65	-0.2227	58	98893680	26	824.1845	64
7	G7	9.57	99	-22.4266	102	1198708	74	735.8442	97
8	G8	8.8	59	-25.4882	106	345203	83	731.3891	99
9	G9	9.44	94	-17.601	95	248179	84	730.974	100
10	G10	7.34	7	-16.8915	94	39586980	39	868.9019	44
11	G11	8.83	61	11.15637	25	43584850	36	840.9519	59
12	G12	9.19	75	-7.76512	73	0	99	778.2548	88

13	G13	9.56	98	-4.96569	65	2744442	68	775.7257	90
14	G14	9.35	90	5.430683	39	39953680	38	800.4885	77
15	G15	9.22	77	11.57584	22	0	99	811.9625	69
16	G16	8.13	25	-0.10731	56	68057500	32	859.9728	48
17	G17	8.35	30	-28.1121	107	1527312	72	926.8031	24
18	G18	9.67	102	7.118222	32	0	99	809.8421	71
19	G19	9.25	81	-5.88197	68	0	99	805.6231	74
20	G20	9.05	69	40.73644	3	0	99	961.4233	16
21	G21	9.13	74	-15.1195	91	5752937	55	724.0263	103
22	G22	9.63	101	-13.2345	86	4067446	57	717.2237	105
23	G23	9.62	100	-4.38603	63	2335366	70	789.2478	84
24	G24	8.29	28	3.60075	47	11758470	47	818.8925	66
25	G25	6.91	3	23.86061	9	15046770000	2	1009.263	8
26	G26	9.86	106	-12.8966	84	834629	79	767.5037	93
27	G27	9.07	71	0.631759	52	90764150	28	797.777	80
28	G28	8.34	29	-32.2672	109	1009306	76	826.9582	62
29	G29	7.36	8	14.00514	18	184851200	15	856.453	50
30	G30	8.07	23	-0.15806	57	371207800	11	842.7685	57
31	G31	8.43	37	34.99401	4	0	99	988.0518	12
32	G32	8.62	48	-7.35067	71	6732225	54	744.6892	96
33	G33	9.34	88	-18.192	96	3793790	58	700.2922	106
34	G34	8.78	58	22.40839	10	3509951	62	954.5311	18
35	G35	9.04	68	-13.1129	85	9334524	50	791.3337	82
36	G36	10.3	109	-20.8444	100	0	99	688.3092	108
37	G37	8.67	53	-6.89354	70	7158968	52	682.0072	109

38	G38	8.46	40	5.323711	41	166776800	17	719.5704	104
39	G39	5.96	1	8.964537	29	823458300	5	844.1509	56
40	G40	9.26	82	11.76184	20	0	99	1445.819	1
41	G41	7.3	5	27.78074	8	22914560	44	886.9214	39
42	G42	8.92	63	-22.3087	101	0	99	903.8487	31
43	G43	7.68	12	45.80161	2	288871200	12	963.1416	15
44	G44	7.73	15	30.76158	6	756716900	7	950.6657	19
45	G45	8.41	34	-4.83633	64	31116390	41	806.1611	73
46	G46	9.19	76	9.392223	27	0	99	867.4889	45
47	G47	7.73	14	19.04869	13	114397800	22	920.4007	27
48	G48	9.13	72	-2.07617	60	0	99	771.0674	92
49	G49	8.5	42	11.7309	21	0	99	893.6878	35
50	G50	8.04	22	1.984535	50	46604000	34	842.5783	58
51	G51	8.64	51	-22.8506	104	458657	80	793.0319	81
52	G52	9.49	96	-10.9712	79	3708972	59	728.9633	101
53	G53	9.25	80	-22.4279	103	3045921	66	817.9125	68
54	G54	9.27	83	8.611617	31	0	99	876.8264	43
55	G55	10.1	108	-14.9755	90	177973	86	727.1358	102
56	G56	7.71	13	2.874352	48	105469200	23	810.7452	70
57	G57	8.97	64	-15.5358	93	4758953	56	826.4792	63
58	G58	8.43	36	3.628714	46	206803500	14	860.5609	46
59	G59	9.36	91	-19.9371	99	866798	78	732.8787	98
60	G60	7.55	10	33.58551	5	490435400	9	924.3487	26
61	G61	8.82	60	5.577378	38	142465200	20	853.9174	52
62	G62	8.59	45	-11.4263	81	357142	82	780.4733	87

63	G63	8.45	39	-15.4224	92	0	99	822.2008	65
64	G64	9.42	93	-14.3538	88	411455	81	776.1267	89
65	G65	9.68	103	-5.3388	66	7104264	53	888.3956	38
66	G66	9.73	104	-12.552	83	1255599	73	859.2062	49
67	G67	8	20	19.29371	12	68471820	30	1055.159	3
68	G68	8.67	52	-8.78683	74	31479040	40	788.6705	85
69	G69	11.2	110	-41.5242	110	0	99	562.4643	110
70	G70	7.8	18	10.68398	26	0	99	993.8301	11
71	G71	9.27	84	-14.9723	89	0	99	818.1972	67
72	G72	8.64	50	-9.46955	76	952314	77	774.2609	91
73	G73	9.48	95	6.134264	36	2661330	69	882.9063	42
74	G74	8	19	8.858818	30	104793000	24	936.4311	22
75	G75	8.43	35	-4.2362	62	41320590	37	798.6722	78
76	G76	7.42	9	0.074542	55	17018900	45	830.241	61
77	G77	8.63	49	11.35089	23	8286947	51	949.2101	20
78	G78	9.04	67	-14.0753	87	1693974	71	766.5943	94
79	G79	9.24	79	3.710284	45	3255314	64	886.42	40
80	G80	8.85	62	2.253946	49	11257600	49	896.5315	34
81	G81	7.79	17	-7.56357	72	102056100	25	807.0927	72
82	G82	8.36	31	19.89213	11	209384	85	942.7051	21
83	G83	9.34	89	-8.86484	75	2896843	67	798.6457	79
84	G84	8.59	46	16.01712	14	3334183	63	801.9192	76
85	G85	7.58	11	-9.80435	77	0	99	888.731	37
86	G86	8.38	32	-2.69236	61	160431200	18	925.0508	25
87	G87	8.5	41	28.86299	7	68292620	31	898.3916	33

88	G88	8.38	33	0.467394	53	178067900	16	1053.708	4
89	G89	9.24	78	-19.5137	98	0	99	853.324	53
90	G90	9.55	97	-11.1799	80	1160719	75	804.825	75
91	G91	8.14	26	-24.4931	105	3575155	61	916.3484	28
92	G92	7.16	4	15.86229	15	759550900	6	973.7633	13
93	G93	8.68	54	-30.6395	108	3230965	65	845.2776	55
94	G94	9.06	70	-18.3377	97	14220050	46	781.2003	86
95	G95	8.02	21	4.772041	43	0	99	893.3565	36
96	G96	9.13	73	-10.0771	78	3577609	60	751.4927	95
97	G97	8.72	57	1.116281	51	46552600	35	854.1485	51
98	G98	8.51	43	-5.90131	69	48064210	33	860.1427	47
99	G99	9.31	86	6.152213	35	87047050	29	958.1226	17
100	G100	8.61	47	-0.46232	59	97204770	27	884.4091	41
101	G101	8.43	38	5.351912	40	860999700	4	972.129	14
102	G102	9.03	66	14.30904	17	28052770	42	934.0166	23
103	G103	8.53	44	5.247391	42	1038750000	3	1028.29	5
104	G104	8.1	24	6.398613	34	394002000	10	997.4152	10
105	G105	9.38	92	13.61825	19	0	99	835.8477	60
106	G106	9.76	105	-5.42106	67	0	99	851.5225	54
107	G107	8.17	27	5.764618	37	651887400	8	1017.13	7
108	G108	8.7	55	11.30864	24	208686800	13	1082.594	2
109	G109	9.29	85	0.219364	54	0	99	1003.463	9
110	G110	9.33	87	3.970651	44	118665700	21	902.0627	32