VARIETAL EVALUATION AT MULTI-LOCATION

A three tier system of evaluation of groundnut entries under the nomenclature of Initial Varietal Trial-Stage I (IVT-I); Initial Varietal Trial-Stage II (IVT-II) and Advanced Varietal Trial (AVT) is being adopted and the trials were allotted to the following 30 locations distributed over five eco-geographical zones.

Zone I (5)	Mainpuri, Bikaner, Durgapura, Bawal*, Ludhiana*
Zone II (5)	Junagadh, Amreli*, Talod*, Udaipur, Pratapgarh*
Zone III (6)	Gwalior, Jalgaon, Akola*, Shirgaon, Latur*, Raigarh*
Zone IV (4)	Mohanpur, Imphal, Kanke, Bhubaneshwar
Zone V (10)	Vridhachalam, Jagtial, Kadiri, Tirupati, Dharwad, Raichur, Tindivanam, Digraj*, Hiriyur and Palem*

* Voluntary centres

The trial sets for *kharif* 2017 IVT I and AVT were coded at ICAR-DGR, Junagadh and dispatched to the assigned locations along with technical details. The trial sets of IVT II were constituted at the centres concerned by using the harvest of IVT-I stage trials conducted in *kharif* 2016 and retaining the same code.

Decoding of IVT-II entries was done after analysis of data of two years. However, decoding of IVT I trials was not done because the trials would be repeated in *kharif* 2018, as such as IVT-II.

Statistical Analysis:

1. The mean performances of entries (pod and kernel yields) including check varieties were compared on the basis of LSD.
2. Mean pod and kernel yields of entries of IVT-I and IVT-II were pooled for decision making on promotion to AVT stage.
3. Mean pod and kernel yields of entries of AVT over three years along with ancillary observations and their reactions to pests and diseases were considered for identification of a variety

Tabulation and presentation of data:

For each trial conducted during *kharif* 2017, the data have been presented in separate tables as:

a) Pod and kernel yields separately (as kg/ha)
b) Ancillary characters viz. plant stand in number/plot, crop duration in days, shelling out turn as percent, 100-kernel weight in g, sound matured kernel in percentage and oil and protein contents in percentage along with the ranks of each entry based on their numerical superiority.

Pooling of data: For promoting an entry to AVT, the pooled-data of both IVT-I and IVT-II was considered. For promoting an entry to AVT, the performance of the entry over locations of the zone and years was taken into account. For identification of an entry at AVT, the data of IVT-I, pooled data of IVT-I and II, and AVT were considered together along with weighted mean in addition to other ancillary traits and reactions to key pests and diseases at hot spot locations.

INITIAL VARIETAL TRIAL STAGE-I

Habit Group: Spanish Bunch

In this trial, 19 entries were tested in all the 5 zones along with respective zonal checks **(Table R).** The different checks used in this trial are presented below. The trial was allotted to 27 centres and all of them have conducted and reported the trial data except for Kadiri centre which reported the data only by 24.3.2018. The zone-wise results were summarized in **Table 1a through Table 5c**. Decoding of entries was not done because the trial will be repeated as such in all the centres in *kharif* 2018, by using the harvest of IVT I at each centre as the source of seed for IVT II. No decision needs to be taken from this trial because the promotion or rejection of entries will be decided based on the pooled analysis to be carried out and presented in the next workshop.

Table R. The zonal check varieties used in *kharif* 2017 in IVT stage-I trials (Habit group: Spanish bunch)

Zone →	I	II	III	IV	V
Check variety→	TAG 24 TG 37A	TG 37A GG 7 SG 99 JL 501	TAG 24 GG 8 AK 159 JL 776	OG 52-1 Girnar 3 GPBD 5 R 2001-2	R 2001-2 GPBD 4 VG 9816 R 2001-3

Habit Group: Virginia

In this trial, 12 entries were tested in all the 4 zones with respective zonal checks (**Table S**). The trial was allotted to 22 centres. All the centres conducted the trial and have reported the data except Kadiri centre which reported the data only by 24.3.2018. The zone-wise results are summarized in **Table 6a through Table 9c**. Decoding of entries was not done because the trial would be repeated as such in all the centres in *kharif* 2018, by using the harvest of IVT-I at each centre as the source of seed for IVT II. No decision was required to be taken from this trial because the promotion or rejection of entries would be decided on the basis the pooled analysis to be carried out and presented in the next workshop.

Table S. The zonal check varieties used in *kharif* 2017 in IVT stage-I trials (habit group: Virginia)

Zone →	I	II	IV	V
Check variety→	Girnar 2 GG 21 HNG 69 HNG 123 CSMG 9510 CSMG 2003-19 Raj. Mungaphali-1 Raj. Mungaphali-3	GG 20 Somnath KDG 128 GJG 22 KDG 123	KDG 123 BAU 13 GJG 18 Raj Mungafali 2 GJG 19	KDG 123 KDG 128 GG 16

Initial Large Seeded Varietal Trial (ILSVT-Stage I)

The trial was allotted to six centres viz Ludhiana, Junagadh, Dharwad, Shirgaon and Rahuri. There were six entries, K 2066, K 1924, K 2064, K 1574, JSSP-LS-58 and ICGV 06189. The check varieties used were BAU 13, GJG (HPS) 1, TKG 19 A, ICGV 86564 and Mallika. The center-wise performance of the entries for pod and kernel yield is provided separately in **Tables 10a and 10b**. The ancillary observation pooled over seven centers are also provided in **Table 10c**. No decision needs to be taken, as this trial would be repeated as such for one more year as LSVT Stage II during *kharif* 2018.

ZONE I

Table 1a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2017

Pod yield (kg/ha)

S.N.	Entry	Mainpuri	Durgapura	Bikaner	Ludhiana	Bawal	Mean	R
1	ISK I 2017-1	1111	3443	3150	3338	1733	2555	16
2	ISK I 2017-2	1169	3310	717	3007	1867	2014	20
3	ISK I 2017-3	1088	2952	2583	3715	2222	2512	17
4	ISK I 2017-4	1459	3472	4216	1770	2213	2626	14
5	ISK I 2017-5	1042	3675	2438	1126	3467	2349	18
6	ISK I 2017-6	1204	4445	2325	2767	3253	2799	12
7	ISK I 2017-7	1227	3947	2191	888	809	1812	21
8	ISK I 2017-8	1042	4523	3458	2191	1791	2601	15
9	ISK I 2017-9	1181	4086	3577	1615	3156	2723	13
10	ISK I 2017-10	1644	4534	3782	1539	3867	3073	7
11	ISK I 2017-11	1181	4242	4747	3401	1911	3096	6
12	ISK I 2017-12	972	3695	2750	1903	1667	2197	19
13	ISK I 2017-14	1783	4149	4203	2586	3889	3322	5
14	ISK I 2017-15	1852	4375	4467	4960	3845	3900	1
15	ISK I 2017-16	1736	3791	2603	2807	3178	2823	11
16	ISK I 2017-18	1088	4415	2734	2599	3667	2900	10
17	ISK I 2017-19	1551	4766	4189	1383	3467	3071	8
18	ISK I 2017-20	1667	3582	4103	2486	3267	3021	9
19	ISK I 2017-22	1922	4693	4319	2554	4200	3537	2
20	ISK I 2017-24	1516	4352	3256	3942	4111	3435	3
21	ISK I 2017-25	996	5385	4045	2713	3755	3379	4
	GM	1354	4087	3326	2537	2921	2845	
	S.E. Diff. Mean	57.2	291.5	503.0	211.7	136.0	284.4	
	CD at 5%	114.5	583.1	1006.1	423.5	272.0	559.8	
	CV%	6.0	10.1	21.4	11.8	6.6	14.1	

Table 1b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2017

Kernel yield (kg/ha)

S.N.	Entry	Mainpuri	Durgapura	Bikaner	Ludhiana	Bawal	Mean	R
1	ISK I 2017-1	756	2406	1837	2415	1054	1694	14
2	ISK I 2017-2	807	2092	400	2023	1029	1270	20
3	ISK I 2017-3	761	1998	1491	2600	1295	1629	16
4	ISK I 2017-4	1036	2322	2156	1277	1544	1667	15
5	ISK I 2017-5	750	2578	1378	797	2121	1525	18
6	ISK I 2017-6	831	2831	1376	1926	1988	1790	13
7	ISK I 2017-7	834	2560	1118	583	481	1115	21
8	ISK I 2017-8	709	2921	1815	1552	1071	1613	17
9	ISK I 2017-9	850	2924	1917	1106	2167	1793	12
10	ISK I 2017-10	1167	3373	2049	1135	2634	2072	6
11	ISK I 2017-11	814	2711	2667	2335	1083	1922	8
12	ISK I 2017-12	671	2405	1546	1362	1103	1417	19
13	ISK I 2017-14	1213	2715	2320	1522	2601	2074	5
14	ISK I 2017-15	1333	3076	2604	3687	2764	2693	1
15	ISK I 2017-16	1181	2489	1496	2092	2134	1879	10
16	ISK I 2017-18	751	3110	1230	1868	2444	1881	9
17	ISK I 2017-19	1039	3050	2078	920	2172	1852	11
18	ISK I 2017-20	1167	2354	2297	1803	2257	1976	7
19	ISK I 2017-22	1383	3041	2199	1781	2728	2226	3
20	ISK I 2017-24	1076	3061	1605	2747	2755	2249	2
21	ISK I 2017-25	697	3748	2236	1857	2507	2209	4
	GM	944	2751	1801	1780	1902	1835	
	S.E. Diff. Mean	40.5	197.9	312.1	160.2	90.2	185.5	
	CD at 5%	81.1	395.8	624.2	320.5	180.4	365.0	
	CV%	6.1	10.2	24.5	12.7	6.7	14.3	

Table 1c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2017

Ancillary traits

S.N.	Entry	Trait	Mainpuri	Durgapura	Bikaner	Ludhiana	Bawal	Mean
1	ISK I 2017-1	PS	312	321	312	204	165	263
		D	100	111	-	101	120	108
		S	68	70	58	72	61	66
		HKW	36	46	-	47	55	46
		SMK	94	94	-	86	68	86
		O	48	49	-	53	-	50
		P	26	30	-	28	-	28
2	ISK I 2017-2	PS	293	322	311	207	100	247
		D	102	112	-	110	124	112
		S	69	63	56	67	55	62
		HKW	37	47	-	55	47	46
		SMK	90	93	-	85	83	88
		O	49	50	-	49	-	49
		P	24	28	-	28	-	27
3	ISK I 2017-3	PS	306	321	304	199	171	260
		D	105	107	-	103	121	109
		S	70	68	58	70	58	65
		HKW	38	47	-	51	51	47
		SMK	90	94	-	85	76	86
		O	49	49	-	50	-	49
		P	26	30	-	28	-	28
4	ISK I 2017-4	PS	322	327	305	178	233	273
		D	101	108	-	112	121	111
		S	71	67	51	72	70	66
		HKW	29	29	-	36	40	34
		SMK	86	94	-	85	69	84
		O	48	48	-	50	-	49
		P	25	28	-	28	-	27
5	ISK I 2017-5	PS	301	319	313	208	195	267
		D	100	111	-	113	121	111
		S	72	70	56	71	61	66
		HKW	36	35	-	43	51	41
		SMK	92	96	-	82	84	89
		O	48	49	-	52	-	50
		P	25	28	-	27	-	27
6	ISK I 2017-6	PS	301	325	303	267	191	277
		D	100	108	-	109	124	110
		S	69	64	59	70	61	65
		HKW	32	45	-	48	56	45
		SMK	97	92	-	83	80	88
		O	47	49	-	51	-	49
		P	24	27	-	27	-	26
7	ISK I 2017-7	PS	315	328	316	241	169	274
		D	102	107	-	108	120	109
		S	68	65	51	66	60	62
		HKW	27	29	-	29	33	30
		SMK	94	90	-	81	67	83
		O	51	51	-	52	-	51
		P	25	29	-	29	-	28
8	ISK I 2017-8	PS	302	331	310	219	124	257
		D	104	114	-	112	122	113
		S	68	65	52	71	60	63
		HKW	30	44	-	46	48	42
		SMK	95	90	-	82	69	84
		O	50	52	-	53	-	52
		P	22	28	-	29	-	26

S.N.	Entry	Trait	Mainpuri	Durgapura	Bikaner	Ludhiana	Bawal	Mean
9	ISK I 2017-9	PS	312	328	304	192	197	267
		D	100	109	-	99	120	107
		S	72	72	54	68	69	67
		HKW	32	43	-	40	49	41
		SMK	92	94	-	87	75	87
		O	49	50	-	52	-	50
		P	26	29	-	28	-	28
10	ISK I 2017-10	PS	289	324	300	212	163	258
		D	102	107	-	103	123	109
		S	71	74	53	74	68	68
		HKW	31	44	-	40	42	39
		SMK	94	96	-	86	78	88
		O	51	51	-	50	-	51
		P	27	31	-	29	-	29
11	ISK I 2017-11	PS	301	328	303	249	128	262
		D	99	108	-	112	122	110
		S	69	64	56	69	57	63
		HKW	32	44	-	54	49	45
		SMK	96	95	-	83	71	86
		O	51	50	-	51	-	51
		P	24	29	-	29	-	27
12	ISK I 2017-12	PS	299	324	303	190	144	252
		D	97	108	-	108	120	108
		S	69	65	56	72	66	66
		HKW	30	26	-	39	53	37
		SMK	90	92	-	81	68	83
		O	48	49	-	50	-	49
		P	25	28	-	30	-	28
13	ISK I 2017-14	PS	306	328	305	273	207	284
		D	98	112	-	103	124	109
		S	68	65	55	59	67	63
		HKW	35	33	-	35	53	39
		SMK	92	93	-	87	67	85
		O	50	51	-	53	-	51
		P	26	29	-	27	-	27
14	ISK I 2017-15	PS	317	319	304	238	239	283
		D	100	110	-	110	124	111
		S	72	70	58	74	72	69
		HKW	33	44	-	51	55	46
		SMK	96	93	-	83	86	89
		O	49	50	-	53	-	51
		P	23	28	-	28	-	26
15	ISK I 2017-16	PS	312	331	309	196	225	275
		D	105	109	-	109	122	111
		S	68	66	57	75	67	66
		HKW	32	28	-	36	39	34
		SMK	94	89	-	82	76	85
		O	50	50	-	52	-	51
		P	25	29	-	28	-	27
16	ISK I 2017-18	PS	315	336	309	300	209	294
		D	102	109	-	111	123	111
		S	69	70	45	72	67	65
		HKW	31	51	-	53	61	49
		SMK	92	93	-	87	81	88
		O	50	51	-	53	-	51
		P	25	30	-	28	-	28

S.N.	Entry	Trait	Mainpuri	Durgapura	Bikaner	Ludhiana	Bawal	Mean
17	ISK I 2017-19	PS	315	322	311	225	209	276
		D	106	113	-	107	122	112
		S	67	64	49	66	63	62
		HKW	28	31	-	38	45	36
		SMK	90	92	-	82	66	83
		O	49	50	-	53	-	51
		P	24	29	-	28	-	27
18	ISK I 2017-20	PS	319	317	305	246	228	283
		D	104	113	-	109	123	112
		S	70	66	56	73	69	67
		HKW	30	28	-	37	40	34
		SMK	94	92	-	83	81	88
		O	53	51	-	53	-	52
		P	25	29	-	29	-	28
19	ISK I 2017-22	PS	317	337	309	220	217	280
		D	105	109	-	114	121	112
		S	72	65	51	70	65	65
		HKW	29	37	-	40	47	38
		SMK	90	90	-	88	73	85
		O	50	52	-	52	-	51
		P	25	28	-	28	-	27
20	ISK I 2017-24	PS	317	331	312	298	236	299
		D	107	107	-	102	120	109
		S	71	70	47	70	67	65
		HKW	28	39	-	44	53	41
		SMK	95	91	-	86	71	86
		O	49	50	-	52	-	50
		P	25	28	-	27	-	27
21	ISK I 2017-25	PS	310	334	306	213	237	280
		D	104	110	-	99	119	108
		S	70	70	55	68	67	66
		HKW	30	39	-	44	51	41
		SMK	92	92	-	85	81	87
		O	49	50	-	53	-	51
		P	25	28	-	27	-	27
Final plant stand (000/ha)								
	G.M		309	326	307	227	190	272
	S.E. Diff. Mean		6.3	4.7	6.3	12.5	6.3	7.7
	CD at 5%		12.5	9.4	NS	24.9	12.6	15.1
	CV %		2.9	2.0	2.9	7.7	4.7	4.0

ZONE II

Table 2a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2017

Pod yield (kg/ha)

S.N.	Entry	Junagadh	Amreli	Talod	Udaipur	Mean	R
1	ISK I 2017-1	1807	1161	3183	2370	2130	19
2	ISK I 2017-2	1683	835	2836	3490	2211	18
3	ISK I 2017-3	1947	1034	2778	2327	2021	22
4	ISK I 2017-4	1713	1194	2547	3548	2250	17
5	ISK I 2017-5	2082	1048	3704	2960	2448	11
6	ISK I 2017-6	1429	980	2546	3235	2047	20
7	ISK I 2017-7	1402	648	1389	2711	1538	23
8	ISK I 2017-8	2217	839	3414	3160	2407	14
9	ISK I 2017-9	1986	1200	4109	3197	2623	5
10	ISK I 2017-10	3055	1647	4051	2766	2880	1
11	ISK I 2017-11	1734	932	3009	2468	2036	21
12	ISK I 2017-12	1825	1046	3646	3114	2408	13
13	ISK I 2017-14	2656	1254	4051	3145	2776	2
14	ISK I 2017-15	1602	951	4861	2769	2546	7
15	ISK I 2017-16	2187	1458	3588	3293	2632	4
16	ISK I 2017-18	1209	808	4688	2436	2285	16
17	ISK I 2017-19	2530	1584	3067	2804	2496	8
18	ISK I 2017-20	2224	1202	3125	3166	2429	12
19	ISK I 2017-22	2547	1549	3993	2697	2696	3
20	ISK I 2017-25	1618	806	3646	3110	2295	15
21	ISK I 2017-26	2024	1370	3472	2952	2454	10
22	ISK I 2017-27	2109	1287	4109	2977	2621	6
23	ISK I 2017-28	1995	1223	3762	2848	2457	9
	GM	1982	1133	3460	2937	2378	
	S.E. Diff. Mean	186.0	83.8	367.1	365.5	278.4	
	CD at 5%	371.3	167.4	733.0	729.8	548.1	
	CV%	13.3	10.5	15.0	17.6	16.6	

Table 2b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2017

Kernel yield (kg/ha)

S.N.	Entry	Junagadh	Amreli	Talod	Udaipur	Mean	R
1	ISK I 2017-1	1309	792	2238	1724	1516	16
2	ISK I 2017-2	1066	448	1682	2127	1331	20
3	ISK I 2017-3	1300	656	1950	1528	1358	19
4	ISK I 2017-4	1312	821	1673	2563	1592	14
5	ISK I 2017-5	1503	638	2641	2138	1730	11
6	ISK I 2017-6	914	568	1535	1962	1245	22
7	ISK I 2017-7	954	349	933	1928	1041	23
8	ISK I 2017-8	1399	457	2182	1934	1493	18
9	ISK I 2017-9	1411	754	2877	2254	1824	3
10	ISK I 2017-10	2280	1073	2925	2042	2080	1
11	ISK I 2017-11	1101	517	1983	1504	1276	21
12	ISK I 2017-12	1348	719	2640	2258	1741	10
13	ISK I 2017-14	1886	817	2937	1869	1877	2
14	ISK I 2017-15	1117	580	3242	2062	1750	9
15	ISK I 2017-16	1490	889	2454	2175	1752	8
16	ISK I 2017-18	814	457	3061	1688	1505	17
17	ISK I 2017-19	1680	953	2122	1809	1641	12
18	ISK I 2017-20	1438	748	2085	2109	1595	13
19	ISK I 2017-22	1750	997	2751	1716	1804	5
20	ISK I 2017-25	1139	487	2381	2215	1556	15
21	ISK I 2017-26	1442	942	2493	2145	1755	7
22	ISK I 2017-27	1496	822	2802	2105	1806	4
23	ISK I 2017-28	1478	816	2799	2061	1788	6
	GM	1375	709	2365	1996	1611	
	S.E. Diff. Mean	131.0	55.8	254.5	252.5	192.9	
	CD at 5%	261.6	111.4	508.1	504.1	379.8	
	CV%	13.5	11.1	15.2	17.9	16.9	

Table 2c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2017

Ancillary traits

S.N.	Entry	Trait	Junagadh	Amreli	Talod	Udaipur	Mean
1	ISK I 2017-1	PS	318	200	264	329	278
		D	103	104	128	95	108
		S	72	68	70	73	71
		HKW	46	37	48	43	44
		SMK	94	97	-	87	93
		O	51	48	-	47	49
		P	27	29	-	30	29
2	ISK I 2017-2	PS	316	204	284	330	284
		D	110	110	127	102	112
		S	63	54	59	61	59
		HKW	46	32	42	41	40
		SMK	94	91	-	91	92
		O	49	48	-	47	48
		P	25	26	-	26	26
3	ISK I 2017-3	PS	311	205	281	332	282
		D	105	110	127	96	110
		S	67	63	70	66	67
		HKW	38	32	38	41	37
		SMK	92	94	-	86	91
		O	50	48	-	48	49
		P	27	28	-	30	28
4	ISK I 2017-4	PS	312	213	331	330	297
		D	105	105	128	94	108
		S	77	69	66	73	71
		HKW	33	26	28	35	31
		SMK	95	98	-	86	93
		O	51	48	-	48	49
		P	25	28	-	28	27
5	ISK I 2017-5	PS	313	206	322	333	293
		D	104	111	126	92	108
		S	72	61	71	72	69
		HKW	37	29	44	41	38
		SMK	93	97	-	92	94
		O	51	48	-	49	49
		P	25	27	-	29	27
6	ISK I 2017-6	PS	319	206	277	330	283
		D	106	115	127	98	111
		S	64	58	60	61	61
		HKW	31	34	40	41	37
		SMK	80	95	-	91	89
		O	49	47	-	47	48
		P	26	27	-	26	26
7	ISK I 2017-7	PS	317	204	301	332	288
		D	105	112	128	95	110
		S	68	54	67	71	65
		HKW	24	21	22	30	24
		SMK	82	84	-	91	85
		O	53	47	-	51	50
		P	26	27	-	26	26
8	ISK I 2017-8	PS	310	184	262	331	272
		D	107	116	127	102	113
		S	63	54	64	61	61
		HKW	34	24	38	39	34
		SMK	95	89	-	85	89
		O	52	49	-	51	51
		P	26	26	-	27	26

S.N.	Entry	Trait	Junagadh	Amreli	Talod	Udaipur	Mean
9	ISK I 2017-9	PS	315	203	308	332	289
		D	99	113	128	97	109
		S	71	63	70	71	69
		HKW	35	29	40	41	36
		SMK	91	96	-	90	92
		O	52	48	-	49	50
		P	26	27	-	29	27
10	ISK I 2017-10	PS	320	198	307	329	288
		D	103	104	127	95	107
		S	75	65	72	74	72
		HKW	36	35	40	36	37
		SMK	93	95	-	87	92
		O	54	49	-	50	51
		P	27	29	-	29	28
11	ISK I 2017-11	PS	314	199	273	330	279
		D	109	108	128	104	112
		S	64	55	66	61	61
		HKW	37	32	44	43	39
		SMK	93	95	-	92	93
		O	50	48	-	50	49
		P	26	26	-	28	27
12	ISK I 2017-12	PS	315	199	286	330	282
		D	106	109	126	95	109
		S	74	69	72	73	72
		HKW	40	37	40	41	40
		SMK	98	97	-	88	94
		O	51	50	-	50	50
		P	27	29	-	30	29
13	ISK I 2017-14	PS	321	204	318	330	293
		D	111	105	126	102	111
		S	71	65	73	60	67
		HKW	38	32	30	33	33
		SMK	90	96	-	84	90
		O	51	50	-	50	50
		P	28	29	-	26	28
14	ISK I 2017-15	PS	315	206	338	330	297
		D	103	110	128	101	110
		S	70	61	67	75	68
		HKW	40	30	34	31	34
		SMK	92	91	-	85	90
		O	50	49	-	50	50
		P	26	26	-	27	26
15	ISK I 2017-16	PS	319	211	343	332	301
		D	102	108	128	95	108
		S	68	61	68	66	66
		HKW	25	28	26	30	27
		SMK	82	92	-	86	87
		O	51	49	-	50	50
		P	28	29	-	29	29
16	ISK I 2017-18	PS	319	204	322	332	294
		D	105	114	128	102	112
		S	67	56	65	70	65
		HKW	39	34	40	45	39
		SMK	95	94	-	89	93
		O	52	49	-	50	50
		P	27	27	-	30	28

S.N.	Entry	Trait	Junagadh	Amreli	Talod	Udaipur	Mean
17	ISK I 2017-19	PS	332	204	329	330	299
		D	105	108	128	107	112
		S	67	60	69	65	65
		HKW	30	32	30	33	31
		SMK	88	92	-	84	88
		O	52	50	-	50	51
		P	26	28	-	28	27
18	ISK I 2017-20	PS	323	202	335	328	297
		D	105	108	128	105	111
		S	65	62	67	67	65
		HKW	21	26	32	31	28
		SMK	82	87	-	92	87
		O	52	52	-	52	52
		P	26	28	-	30	28
19	ISK I 2017-22	PS	319	190	287	330	281
		D	102	103	128	107	110
		S	69	64	69	64	66
		HKW	28	30	26	34	29
		SMK	85	93	-	90	89
		O	50	50	-	50	50
		P	27	28	-	28	28
20	ISK I 2017-25	PS	315	198	287	332	283
		D	103	112	127	95	109
		S	70	60	65	71	67
		HKW	36	29	26	44	34
		SMK	94	94	-	84	91
		O	51	48	-	49	49
		P	26	27	-	28	27
21	ISK I 2017-26	PS	321	206	318	332	294
		D	105	112	127	97	110
		S	71	69	72	73	71
		HKW	35	39	38	42	38
		SMK	92	99	-	86	92
		O	50	48	-	47	48
		P	26	28	-	29	28
22	ISK I 2017-27	PS	319	210	290	330	287
		D	109	105	127	102	111
		S	71	64	68	71	69
		HKW	42	33	30	43	37
		SMK	97	93	-	91	94
		O	51	49	-	50	50
		P	24	26	-	27	26
23	ISK I 2017-28	PS	317	209	368	329	306
		D	102	108	128	97	109
		S	74	67	74	72	72
		HKW	35	26	20	35	29
		SMK	96	95	-	89	93
		O	51	48	-	49	49
		P	24	26	-	28	26
Final plant stand (000/ha)							
	G.M		317	203	306	331	289
	S.E. Diff. Mean		5.0	4.1	18.3	2.6	9.8
	CD at 5%		10.0	8.2	36.4	NS	19.2
	CV %		2.2	2.9	8.4	1.1	4.8

ZONE III

Table 3a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2017

Pod yield (kg/ha)

S.N.	Entry	Gwalior	Akola	Jalgaon	Latur	Raigarh	Shirgaon	Mean	R
1	ISK I 2017-1	2048	1344	1134	1286	1989	4069	1978	17
2	ISK I 2017-2	2011	1011	617	1628	2172	3403	1807	19
3	ISK I 2017-3	2201	1063	1622	1149	2465	4190	2115	14
4	ISK I 2017-4	2159	1326	1088	745	1382	3299	1667	22
5	ISK I 2017-5	2274	1030	2109	1688	2266	4288	2276	8
6	ISK I 2017-6	2282	1635	1122	2181	1537	4491	2208	12
7	ISK I 2017-7	1994	1317	1114	1794	1074	3235	1755	20
8	ISK I 2017-8	1698	1680	1019	1615	2684	3773	2078	15
9	ISK I 2017-9	2361	1875	2238	1480	794	4711	2243	11
10	ISK I 2017-10	2177	1395	2198	2722	2872	4282	2608	5
11	ISK I 2017-11	2067	1844	692	1907	1016	2899	1737	21
12	ISK I 2017-12	2347	1426	1449	1430	1472	3386	1918	18
13	ISK I 2017-14	2481	1289	3104	3279	4351	3646	3025	1
14	ISK I 2017-15	2699	1672	1293	1266	2405	3524	2143	13
15	ISK I 2017-16	2643	1826	2475	2394	3508	3854	2783	3
16	ISK I 2017-18	2525	1647	927	1394	918	2003	1569	23
17	ISK I 2017-19	2483	2168	2601	2047	1913	3582	2466	7
18	ISK I 2017-20	2531	1814	2129	2624	2289	4039	2571	6
19	ISK I 2017-22	2206	1532	3225	2878	3039	3982	2810	2
20	ISK I 2017-24	2273	1360	1724	1625	3094	3507	2264	10
21	ISK I 2017-30	2258	1351	1705	1582	3354	3339	2265	9
22	ISK I 2017-31	2659	1327	1488	924	2737	3150	2047	16
23	ISK I 2017-32	2110	1232	2986	2865	2758	3762	2619	4
	GM	2282	1485	1741	1848	2265	3670	2215	
	S.E. Diff. Mean	99.1	134.3	147.2	257.0	348.9	407.9	259.4	
	CD at 5%	197.8	268.1	293.9	513.0	696.7	814.5	510.0	
	CV%	6.1	12.8	12.0	19.7	21.8	15.7	16.6	

Table 3b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2017

Kernel yield (kg/ha)

S.N.	Entry	Gwalior	Akola	Jalgaon	Latur	Raigarh	Shirgaon	Mean	R
1	ISK I 2017-1	1372	907	806	815	1387	3261	1424	14
2	ISK I 2017-2	1361	619	401	1027	1408	2236	1175	21
3	ISK I 2017-3	1489	655	1077	721	1695	2788	1404	17
4	ISK I 2017-4	1481	893	806	410	894	2658	1190	20
5	ISK I 2017-5	1518	672	1377	1023	1478	3193	1543	10
6	ISK I 2017-6	1529	1001	774	1380	1065	3491	1540	11
7	ISK I 2017-7	1326	816	781	1159	724	2629	1239	19
8	ISK I 2017-8	1158	1018	671	1035	1739	2828	1408	15
9	ISK I 2017-9	1570	1144	1474	925	518	3706	1556	8
10	ISK I 2017-10	1454	926	1491	1739	1965	3375	1825	4
11	ISK I 2017-11	1371	1121	457	1161	663	2087	1143	22
12	ISK I 2017-12	1538	978	1044	739	958	2565	1304	18
13	ISK I 2017-14	1663	831	2241	2066	2918	2396	2019	1
14	ISK I 2017-15	1808	1055	871	802	1576	2492	1434	13
15	ISK I 2017-16	1763	1212	1668	1545	2188	3058	1906	3
16	ISK I 2017-18	1685	1006	623	784	514	1232	974	23
17	ISK I 2017-19	1658	1332	1843	1294	1159	2807	1682	7
18	ISK I 2017-20	1690	1143	1468	1670	1568	3200	1790	5
19	ISK I 2017-22	1462	987	2270	1658	1956	3226	1926	2
20	ISK I 2017-24	1534	886	1141	1024	1948	2750	1547	9
21	ISK I 2017-30	1507	882	1195	989	2096	2522	1532	12
22	ISK I 2017-31	1769	898	1086	642	1813	2230	1406	16
23	ISK I 2017-32	1398	791	2101	1774	1779	2835	1780	6
	GM	1526	947	1203	1147	1478	2764	1511	
	S.E. Diff. Mean	69.0	85.8	104.7	174.5	208.5	315.7	181.0	
	CD at 5%	137.7	171.3	209.1	348.4	416.3	630.2	355.9	
	CV%	6.4	12.8	12.3	21.5	19.9	16.2	16.9	

Table 3c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2017

Ancillary traits

S.N.	Entry	Trait	Gwalior	Akola	Jalgaon	Latur	Raigarh	Shirgaon	Mean
1	ISK I 2017-1	PS	247	213	304	279	282	311	273
		D	111	114	108	111	132	110	114
		S	67	68	71	63	70	80	70
		HKW	33	47	34	33	41	65	42
		SMK	88	84	96	92	-	84	89
		O	51	51	53	49	48	49	50
		P	26	27	26	25	29	29	27
2	ISK I 2017-2	PS	231	194	298	266	281	315	264
		D	112	115	115	122	137	90	115
		S	68	61	65	63	65	66	65
		HKW	35	38	34	31	45	58	40
		SMK	85	78	96	93	-	81	86
		O	49	48	50	48	48	49	49
		P	28	26	26	25	27	28	27
3	ISK I 2017-3	PS	246	213	310	284	280	323	276
		D	115	117	108	109	136	91	113
		S	68	62	66	63	69	67	66
		HKW	35	38	34	32	44	42	37
		SMK	85	83	96	92	-	82	87
		O	50	50	53	48	48	49	50
		P	28	26	25	24	28	26	26
4	ISK I 2017-4	PS	253	216	313	305	279	315	280
		D	116	112	110	108	131	91	111
		S	69	67	74	54	65	81	68
		HKW	26	31	27	33	33	45	33
		SMK	85	79	92	93	-	84	87
		O	50	49	51	48	50	48	49
		P	28	25	25	23	27	29	26
5	ISK I 2017-5	PS	244	201	305	302	267	322	274
		D	111	112	114	110	126	91	111
		S	67	65	65	61	66	75	66
		HKW	35	38	30	38	42	31	35
		SMK	86	81	89	70	-	80	81
		O	48	50	50	48	47	51	49
		P	25	25	26	24	28	29	26
6	ISK I 2017-6	PS	263	196	311	282	271	314	273
		D	112	113	111	117	125	101	113
		S	67	61	69	63	69	78	68
		HKW	35	39	38	34	43	65	42
		SMK	85	77	95	94	-	85	87
		O	52	48	53	48	45	48	49
		P	28	26	26	26	26	28	27
7	ISK I 2017-7	PS	222	225	306	280	282	319	272
		D	109	117	116	122	127	91	114
		S	67	62	70	65	68	81	69
		HKW	27	22	25	34	33	47	31
		SMK	84	79	90	91	-	82	85
		O	51	50	53	53	48	51	51
		P	25	25	26	26	27	31	27
8	ISK I 2017-8	PS	176	219	308	258	276	312	258
		D	109	113	117	118	128	101	114
		S	68	61	66	64	65	75	66
		HKW	30	28	30	34	38	49	35
		SMK	79	79	94	93	-	83	85
		O	51	50	53	49	50	51	51
		P	26	25	26	26	27	30	27

S.N.	Entry	Trait	Gwalior	Akola	Jalgaon	Latur	Raigarh	Shirgaon	Mean
9	ISK I 2017-9	PS	252	216	304	277	280	321	275
		D	111	114	109	110	136	99	113
		S	67	61	66	63	65	79	67
		HKW	32	34	29	31	37	49	35
		SMK	86	80	92	93	-	83	87
		O	51	49	52	48	47	50	50
		P	28	25	26	23	27	28	26
10	ISK I 2017-10	PS	240	217	297	273	275	297	267
		D	112	115	110	119	135	90	113
		S	67	66	68	64	69	79	69
		HKW	35	34	27	33	36	52	36
		SMK	86	78	91	93	-	81	86
		O	51	52	53	52	50	50	51
		P	30	27	28	27	30	31	29
11	ISK I 2017-11	PS	221	211	298	260	274	313	263
		D	110	115	108	116	130	101	113
		S	67	61	66	61	65	72	65
		HKW	32	40	33	31	35	54	38
		SMK	84	79	94	95	-	82	87
		O	50	49	54	50	45	49	50
		P	27	26	28	25	25	28	27
12	ISK I 2017-12	PS	237	197	303	273	277	314	267
		D	111	115	108	110	126	91	110
		S	66	69	72	52	65	76	66
		HKW	31	41	38	30	33	50	37
		SMK	83	88	96	93	-	80	88
		O	49	51	52	48	47	49	49
		P	28	28	27	25	26	30	27
13	ISK I 2017-14	PS	265	212	308	290	261	313	275
		D	110	114	110	120	123	101	113
		S	67	65	72	63	69	66	67
		HKW	25	36	32	32	35	47	34
		SMK	84	83	95	94	-	82	87
		O	50	51	51	52	46	50	50
		P	28	28	29	28	27	30	28
14	ISK I 2017-15	PS	302	274	307	293	274	317	294
		D	109	113	117	113	126	91	111
		S	67	63	68	63	65	71	66
		HKW	34	35	36	33	36	49	37
		SMK	84	87	95	93	-	85	89
		O	51	50	51	48	44	48	49
		P	27	25	24	23	23	28	25
15	ISK I 2017-16	PS	297	228	314	312	278	323	292
		D	107	111	110	123	125	99	112
		S	67	66	67	65	63	79	68
		HKW	29	32	27	37	27	45	33
		SMK	85	87	90	94	-	75	86
		O	52	51	52	52	48	50	51
		P	29	29	28	26	28	30	28
16	ISK I 2017-18	PS	272	199	304	269	279	273	266
		D	115	112	115	113	133	90	113
		S	67	61	67	56	56	62	62
		HKW	37	38	34	31	41	40	37
		SMK	87	90	90	93	-	80	88
		O	52	52	52	49	46	50	50
		P	28	25	26	25	25	29	26

S.N.	Entry	Trait	Gwalior	Akola	Jalgaon	Latur	Raigarh	Shirgaon	Mean
17	ISK I 2017-19	PS	285	246	307	295	263	326	287
		D	107	114	115	115	129	90	112
		S	67	61	71	63	61	78	67
		HKW	27	31	35	35	34	48	35
		SMK	82	77	93	91	-	82	85
		O	52	51	52	50	45	50	50
		P	27	25	26	24	24	27	26
18	ISK I 2017-20	PS	270	230	310	285	268	316	280
		D	112	115	109	118	127	91	112
		S	67	63	69	64	69	79	68
		HKW	30	27	27	34	35	51	34
		SMK	87	89	95	93	-	83	89
		O	52	53	54	53	49	48	52
		P	28	26	27	27	27	27	27
19	ISK I 2017-22	PS	255	197	319	277	263	320	272
		D	108	111	110	119	124	90	110
		S	66	64	70	58	64	81	67
		HKW	32	38	32	36	35	49	37
		SMK	88	80	95	85	-	81	86
		O	51	51	51	49	50	49	50
		P	28	29	29	25	28	30	28
20	ISK I 2017-24	PS	264	228	310	307	284	308	283
		D	111	112	109	108	129	91	110
		S	68	65	66	63	63	79	67
		HKW	38	32	27	31	32	42	34
		SMK	88	82	95	93	-	84	88
		O	51	50	52	50	51	49	51
		P	27	25	24	27	25	27	26
21	ISK I 2017-30	PS	248	208	294	307	263	321	273
		D	108	109	110	110	128	100	111
		S	67	65	70	63	63	76	67
		HKW	29	32	28	34	31	42	33
		SMK	87	82	96	95	-	80	88
		O	51	53	53	52	51	50	52
		P	27	26	25	23	25	28	26
22	ISK I 2017-31	PS	297	208	304	303	274	322	285
		D	110	110	109	109	126	100	111
		S	67	68	73	69	66	71	69
		HKW	27	36	31	36	33	40	34
		SMK	82	85	92	94	-	82	87
		O	49	49	50	49	48	28	46
		P	27	27	26	23	25	27	26
23	ISK I 2017-32	PS	220	213	304	273	255	326	265
		D	110	113	109	119	120	91	110
		S	66	64	70	62	65	75	67
		HKW	27	34	33	31	32	48	34
		SMK	84	85	95	95	-	81	88
		O	52	51	51	52	49	49	51
		P	28	27	28	29	29	30	29
Final plant stand (000/ha)									
	G.M		253	216	306	285	273	315	274
	S.E. Diff. Mean		15.5	16.9	11.4	10.6	7.3	8.5	12.2
	CD at 5%		31.0	33.7	NS	21.1	14.7	17.0	24.0
	CV %		8.7	11.1	5.3	5.3	3.8	3.8	6.3

ZONE IV

Table 4a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2017

Pod yield (kg/ha)

S.N.	Entry	Bhubaneswar	Imphal	Kanke	Mohanpur	Mean	R
1	ISK I 2017-1	1939	3447	1898	2202	2371	19
2	ISK I 2017-2	1771	4597	1389	2422	2545	12
3	ISK I 2017-3	1742	3502	897	2581	2180	21
4	ISK I 2017-4	1725	2642	1111	2919	2099	22
5	ISK I 2017-5	2020	3152	1377	3165	2428	15
6	ISK I 2017-6	2107	4465	1591	2633	2699	9
7	ISK I 2017-7	2217	3545	1377	2393	2383	17
8	ISK I 2017-8	1701	4454	2055	2709	2729	8
9	ISK I 2017-9	2240	3385	1522	3417	2641	10
10	ISK I 2017-10	2535	3157	1186	4199	2769	6
11	ISK I 2017-11	2483	4344	1290	3539	2914	2
12	ISK I 2017-12	1823	3025	1100	3846	2448	14
13	ISK I 2017-14	2911	4219	1377	3657	3041	1
14	ISK I 2017-15	2465	4124	1215	3591	2849	4
15	ISK I 2017-16	2627	3603	1609	3568	2852	3
16	ISK I 2017-18	1765	2865	1129	3941	2425	16
17	ISK I 2017-19	1881	3903	1777	1948	2377	18
18	ISK I 2017-20	2402	4405	1146	2040	2498	13
19	ISK I 2017-22	2587	3638	1678	3145	2762	7
20	ISK I 2017-33	2442	2780	1487	2729	2359	20
21	ISK I 2017-34	2564	3237	1539	3117	2614	11
22	ISK I 2017-35	2749	1374	1389	2833	2086	23
23	ISK I 2017-36	2865	4167	1215	2940	2797	5
	GM	2242	3566	1407	3023	2559	
	S.E. Diff. Mean	88.4	360.3	203.7	190.5	232.0	
	CD at 5%	176.5	719.3	406.6	380.3	456.9	
	CV%	5.6	14.3	20.5	8.9	12.8	

Table 4b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2017

Kernel yield (kg/ha)

S.N.	Entry	Bhubaneswar	Imphal	Kanke	Mohanpur	Mean	R
1	ISK I 2017-1	1308	2536	1350	1542	1684	15
2	ISK I 2017-2	1095	3264	972	1702	1758	11
3	ISK I 2017-3	1109	2521	606	1835	1518	21
4	ISK I 2017-4	1206	1880	790	2078	1489	22
5	ISK I 2017-5	1262	2148	998	2203	1652	17
6	ISK I 2017-6	1343	3198	1046	1842	1857	9
7	ISK I 2017-7	1318	2599	869	1692	1619	18
8	ISK I 2017-8	1032	3140	1412	1907	1872	8
9	ISK I 2017-9	1356	2301	961	2400	1755	12
10	ISK I 2017-10	1736	2274	859	2997	1966	4
11	ISK I 2017-11	1475	3015	896	2476	1965	5
12	ISK I 2017-12	1276	2219	719	2764	1745	13
13	ISK I 2017-14	1930	3008	981	2525	2111	1
14	ISK I 2017-15	1608	3043	869	2621	2035	2
15	ISK I 2017-16	1720	2536	1109	2526	1973	3
16	ISK I 2017-18	1077	1919	799	2658	1613	19
17	ISK I 2017-19	1175	2606	1252	1389	1605	20
18	ISK I 2017-20	1555	3127	723	1371	1694	14
19	ISK I 2017-22	1762	2682	1139	2239	1956	6
20	ISK I 2017-33	1629	2021	1039	1973	1665	16
21	ISK I 2017-34	1611	2384	1078	2162	1808	10
22	ISK I 2017-35	1682	984	978	1880	1381	23
23	ISK I 2017-36	1754	2890	835	2066	1886	7
	GM	1436	2534	969	2124	1766	
	S.E. Diff. Mean	70.6	264.6	138.1	136.0	167.7	
	CD at 5%	141.0	528.2	275.7	271.5	330.3	
	CV%	7.0	14.8	20.2	9.1	13.5	

Table 4c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2017

Ancillary traits

S.N.	Entry	Trait	Bhubaneswar	Imphal	Kanke	Mohanpur	Mean
1	ISK I 2017-1	PS	301	271	222	260	263
		D	105	116	108	108	109
		S	68	74	72	70	71
		HKW	36	43	51	40	43
		SMK	83	70	93	85	83
		O	48	51	-	51	50
		P	27	24	-	29	27
2	ISK I 2017-2	PS	295	277	152	242	242
		D	109	124	113	111	114
		S	62	71	70	70	68
		HKW	37	50	61	41	47
		SMK	78	63	91	88	80
		O	48	51	-	52	50
		P	25	24	-	25	25
3	ISK I 2017-3	PS	298	285	148	252	246
		D	108	112	110	104	108
		S	64	72	68	71	69
		HKW	41	40	41	40	40
		SMK	79	67	89	85	80
		O	48	50	-	51	50
		P	26	23	-	28	26
4	ISK I 2017-4	PS	300	287	255	258	275
		D	105	112	117	105	110
		S	70	71	71	71	71
		HKW	31	38	39	41	37
		SMK	85	66	80	88	80
		O	49	55	-	52	52
		P	26	24	-	26	25
5	ISK I 2017-5	PS	294	287	188	245	253
		D	104	112	116	103	109
		S	63	68	73	70	68
		HKW	34	30	56	41	40
		SMK	78	57	91	88	78
		O	50	49	-	52	50
		P	25	22	-	25	24
6	ISK I 2017-6	PS	291	309	204	236	260
		D	107	124	116	110	114
		S	64	72	66	70	68
		HKW	38	54	63	43	50
		SMK	79	68	78	87	78
		O	48	50	-	50	49
		P	25	24	-	24	24
7	ISK I 2017-7	PS	295	280	161	231	242
		D	109	119	119	111	114
		S	60	73	63	71	67
		HKW	29	39	41	42	38
		SMK	76	69	86	87	79
		O	51	51	-	54	52
		P	26	23	-	24	24
8	ISK I 2017-8	PS	303	276	131	216	232
		D	104	124	123	111	116
		S	61	71	69	70	68
		HKW	34	43	65	44	46
		SMK	75	65	81	85	77
		O	52	53	-	55	53
		P	25	25	-	24	25

S.N.	Entry	Trait	Bhubaneswar	Imphal	Kanke	Mohanpur	Mean
9	ISK I 2017-9	PS	282	290	154	264	247
		D	106	117	109	106	109
		S	61	68	63	70	66
		HKW	32	31	52	41	39
		SMK	75	58	89	87	77
		O	49	51	-	53	51
		P	25	22	-	26	24
10	ISK I 2017-10	PS	286	275	142	253	239
		D	107	118	112	108	111
		S	69	72	73	71	71
		HKW	33	35	38	44	38
		SMK	84	61	87	90	80
		O	53	52	-	53	53
		P	28	26	-	29	28
11	ISK I 2017-11	PS	284	273	169	254	245
		D	104	125	121	111	115
		S	60	70	70	70	67
		HKW	41	51	46	42	45
		SMK	83	63	91	87	81
		O	50	51	-	54	52
		P	26	25	-	26	26
12	ISK I 2017-12	PS	278	277	172	268	249
		D	106	112	120	104	111
		S	70	73	65	72	70
		HKW	42	47	48	45	45
		SMK	85	72	77	87	80
		O	50	50	-	51	50
		P	26	27	-	29	27
13	ISK I 2017-14	PS	276	292	158	245	243
		D	105	121	117	110	113
		S	66	71	72	69	70
		HKW	34	39	53	42	42
		SMK	82	64	95	84	81
		O	51	51	-	52	51
		P	28	28	-	29	28
14	ISK I 2017-15	PS	291	312	193	278	268
		D	106	119	108	111	111
		S	65	74	73	73	71
		HKW	26	54	49	41	42
		SMK	81	71	86	89	82
		O	50	51	-	53	51
		P	25	23	-	23	24
15	ISK I 2017-16	PS	283	298	230	265	269
		D	106	119	119	111	114
		S	66	70	69	71	69
		HKW	27	38	41	42	37
		SMK	81	63	90	88	81
		O	52	52	-	52	52
		P	27	26	-	29	27
16	ISK I 2017-18	PS	280	281	166	230	239
		D	105	114	119	108	111
		S	61	67	71	67	67
		HKW	40	45	61	40	46
		SMK	77	60	75	87	75
		O	52	51	-	53	52
		P	26	24	-	26	25

S.N.	Entry	Trait	Bhubaneswar	Imphal	Kanke	Mohanpur	Mean
17	ISK I 2017-19	PS	293	317	228	262	275
		D	103	121	107	108	110
		S	63	67	70	71	68
		HKW	32	34	51	38	39
		SMK	79	61	87	88	79
		O	52	52	-	51	52
		P	26	23	-	27	25
18	ISK I 2017-20	PS	276	296	264	223	265
		D	102	118	114	110	111
		S	65	71	63	67	67
		HKW	29	30	54	42	39
		SMK	80	64	77	85	77
		O	54	56	-	55	55
		P	27	25	-	28	27
19	ISK I 2017-22	PS	289	300	191	250	257
		D	103	122	118	105	112
		S	68	74	68	71	70
		HKW	38	39	41	42	40
		SMK	83	65	96	86	82
		O	51	52	-	52	52
		P	27	27	-	28	27
20	ISK I 2017-33	PS	292	275	175	229	243
		D	108	113	110	107	110
		S	67	73	70	72	71
		HKW	33	40	55	39	42
		SMK	82	71	87	89	82
		O	51	50	-	52	51
		P	24	27	-	27	26
21	ISK I 2017-34	PS	285	303	204	291	271
		D	109	117	103	107	109
		S	63	74	70	70	69
		HKW	26	37	47	41	38
		SMK	77	57	93	87	78
		O	48	49	-	52	50
		P	25	23	-	23	24
22	ISK I 2017-35	PS	280	277	216	236	252
		D	105	119	112	110	112
		S	61	72	71	66	68
		HKW	29	31	54	42	39
		SMK	76	60	95	89	80
		O	51	55	-	54	53
		P	25	23	-	26	25
23	ISK I 2017-36	PS	292	293	249	274	277
		D	106	122	107	105	110
		S	61	70	69	70	68
		HKW	27	33	46	50	39
		SMK	77	65	80	88	77
		O	47	51	-	53	50
		P	24	22	-	23	23
Final plant stand (000/ha)							
	G.M		289	288	190	251	254
	S.E. Diff. Mean		13.7	8.1	38.3	15.9	22.2
	CD at 5%		NS	16.1	76.4	31.6	43.7
	CV %		6.7	4.0	28.5	8.9	12.3

ZONE V

Table 5a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2017

Pod yield (kg/ha)

S.N.	Entry	Dharwad	Raichur	Hiriyur	Tirupati	Jagtial	Vriddhachalam	Tindivanam	Mean	R
1	ISK I 2017-1	2358	2764	1616	2691	1754	1827	2957	2281	16
2	ISK I 2017-2	2343	2080	2229	2258	2928	1957	2673	2352	15
3	ISK I 2017-3	1953	2160	1510	2669	1418	2285	2494	2070	22
4	ISK I 2017-4	1855	1899	1704	1409	2315	2229	2491	1986	23
5	ISK I 2017-5	2264	2257	1592	2036	2245	1750	3169	2187	20
6	ISK I 2017-6	2809	2674	2928	2767	2593	2237	3540	2792	9
7	ISK I 2017-7	2769	3170	2696	2953	1881	1540	2854	2552	13
8	ISK I 2017-8	2331	3104	2483	3006	2749	1896	2456	2575	11
9	ISK I 2017-9	2308	2695	1599	1933	2361	1882	2739	2217	19
10	ISK I 2017-10	3572	3080	2429	3797	3096	2593	3143	3101	6
11	ISK I 2017-11	2296	3434	1686	2971	2998	2044	2915	2621	10
12	ISK I 2017-12	2387	2514	1233	2246	1638	2158	2396	2081	21
13	ISK I 2017-14	3059	4423	4298	3778	5486	2942	3590	3939	1
14	ISK I 2017-15	2028	3802	1896	2276	1603	2534	3477	2517	14
15	ISK I 2017-16	2661	3427	2219	3581	4676	2176	4184	3275	3
16	ISK I 2017-18	1992	2201	2259	1938	1927	1830	3791	2277	17
17	ISK I 2017-19	3257	4365	2949	3089	2743	2375	3008	3112	5
18	ISK I 2017-20	2641	4170	2137	3841	3924	2296	3809	3260	4
19	ISK I 2017-22	2719	4094	3106	3745	3368	2948	3072	3293	2
20	ISK I 2017-36	2789	4399	2647	2825	2419	2431	3632	3020	7
21	ISK I 2017-37	2564	3114	1945	2844	1927	1148	2375	2274	18
22	ISK I 2017-38	3348	3653	2701	2287	3189	2429	2840	2921	8
23	ISK I 2017-39	2436	3507	2435	2662	2367	1948	2523	2554	12
	GM	2554	3173	2274	2765	2678	2150	3049	2663	
	S.E. Diff. Mean	291.1	361.8	337.5	333.5	233.1	201.4	182.1	285.1	
	CD at 5%	581.1	722.3	673.8	665.9	465.5	402.0	363.7	560.2	
	CV%	16.1	16.1	21.0	17.1	12.3	13.2	8.4	15.1	

Table 5b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2017

Kernel yield (kg/ha)

S.N.	Entry	Dharwad	Raichur	Hiriyur	Tirupati	Jagtial	Vriddhachalam	Tindivanam	Mean	R
1	ISK I 2017-1	1751	2063	1052	1916	1187	1215	2134	1617	15
2	ISK I 2017-2	1462	1539	1438	1412	1751	1264	1704	1510	19
3	ISK I 2017-3	1421	1603	1025	1752	959	1529	1767	1436	22
4	ISK I 2017-4	1417	1408	1078	992	1685	1619	1753	1422	23
5	ISK I 2017-5	1679	1679	998	1351	1465	1103	2329	1515	18
6	ISK I 2017-6	1898	1855	1930	1777	1600	1512	2417	1856	9
7	ISK I 2017-7	2099	2320	1747	1986	1200	966	2071	1770	11
8	ISK I 2017-8	1462	2168	1487	1838	1556	1167	1815	1642	14
9	ISK I 2017-9	1700	2004	1022	1352	1577	1145	2022	1546	16
10	ISK I 2017-10	2565	2244	1647	2589	2205	1772	2320	2191	4
11	ISK I 2017-11	1460	2429	1031	1946	1743	1419	2149	1739	12
12	ISK I 2017-12	1809	1850	893	1580	1068	1442	1778	1488	21
13	ISK I 2017-14	2219	3231	2971	2622	3448	1963	2611	2723	1
14	ISK I 2017-15	1439	2745	1167	1566	1039	1707	2491	1736	13
15	ISK I 2017-16	1928	2536	1492	2402	2861	1450	3038	2244	3
16	ISK I 2017-18	1385	1529	1306	1235	1271	1147	2552	1489	20
17	ISK I 2017-19	2240	2723	1859	2049	1647	1604	2050	2025	7
18	ISK I 2017-20	1816	2706	1473	2534	2501	1540	2582	2165	5
19	ISK I 2017-22	2000	2775	2186	2652	2200	2023	2168	2286	2
20	ISK I 2017-36	1981	2983	1681	1839	1555	1659	2530	2032	6
21	ISK I 2017-37	1937	2194	1353	1866	1085	712	1544	1527	17
22	ISK I 2017-38	2455	2568	1827	1569	2067	1621	2018	2018	8
23	ISK I 2017-39	1737	2595	1727	1826	1588	1260	1813	1792	10
	GM	1820	2250	1495	1854	1707	1428	2159	1816	
	S.E. Diff. Mean	219.2	294.8	234.8	214.6	160.6	138.2	129.7	206.3	
	CD at 5%	437.7	588.6	468.8	428.5	320.7	275.9	259.0	405.3	
	CV%	17.0	18.5	22.2	16.4	13.3	13.7	8.5	16.1	

Table 5c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2017

Ancillary traits

S.N.	Entry	Trait	Dharwad	Raichur	Hiriyur	Tirupati	Jagtial	Vriddhachalam	Tindivanam	Mean
1	ISK I 2017-1	PS	174	332	109	211	310	194	287	231
		D	110	105	114	107	103	95	107	106
		S	74	74	66	71	68	66	72	70
		HKW	48	52	42	39	41	40	66	47
		SMK	97	96	85	85	96	78	99	91
		O	49	49	-	48	50	50	48	49
		P	27	29	-	28	27	26	30	28
2	ISK I 2017-2	PS	160	330	113	240	264	171	267	221
		D	115	110	123	107	108	102	105	110
		S	62	74	64	63	60	65	64	64
		HKW	44	42	50	45	34	41	62	45
		SMK	95	92	87	85	90	71	95	88
		O	49	47	-	49	49	49	50	49
		P	26	27	-	25	24	25	28	26
3	ISK I 2017-3	PS	172	340	83	220	285	252	283	233
		D	110	103	117	107	99	98	105	105
		S	73	74	68	67	68	67	71	70
		HKW	40	50	46	46	40	42	58	46
		SMK	97	95	88	90	93	77	82	89
		O	50	49	-	48	50	49	48	49
		P	26	28	-	28	25	25	29	27
4	ISK I 2017-4	PS	181	341	142	229	310	384	328	273
		D	105	102	115	107	99	98	105	104
		S	77	74	63	70	72	73	70	71
		HKW	33	35	37	31	28	36	53	36
		SMK	95	97	83	88	87	69	97	88
		O	49	48	-	49	49	50	48	49
		P	25	28	-	27	26	25	29	27
5	ISK I 2017-5	PS	181	339	138	224	289	269	314	251
		D	105	101	118	107	100	97	107	105
		S	74	74	63	67	65	63	74	69
		HKW	38	41	36	39	33	35	55	40
		SMK	96	97	83	90	88	68	93	88
		O	50	48	-	49	49	49	48	49
		P	26	27	-	27	26	26	28	27
6	ISK I 2017-6	PS	189	336	166	249	263	248	268	246
		D	110	109	118	107	109	102	107	109
		S	67	70	66	64	62	68	68	66
		HKW	42	45	54	45	34	40	63	46
		SMK	97	94	87	88	94	72	99	90
		O	48	48	-	50	49	50	49	49
		P	25	27	-	27	25	26	28	26
7	ISK I 2017-7	PS	205	337	163	278	290	340	302	274
		D	107	98	112	107	109	97	106	105
		S	75	73	65	67	64	63	73	69
		HKW	29	35	33	25	21	28	39	30
		SMK	92	95	83	89	79	54	92	83
		O	53	52	-	53	52	53	51	52
		P	27	28	-	28	25	25	28	27
8	ISK I 2017-8	PS	170	337	108	217	253	208	161	208
		D	115	111	129	107	110	105	105	112
		S	63	69	60	62	57	61	74	64
		HKW	35	41	47	37	34	34	51	40
		SMK	90	95	81	87	92	66	99	87
		O	52	51	-	53	53	54	53	53
		P	26	28	-	27	26	25	27	27

S.N.	Entry	Trait	Dharwad	Raichur	Hiriyur	Tirupati	Jagtial	Vriddhachalam	Tindivanam	Mean
9	ISK I 2017-9	PS	186	337	114	217	297	299	304	251
		D	108	98	113	107	106	98	107	105
		S	74	74	65	69	67	61	74	69
		HKW	38	44	41	37	33	34	66	42
		SMK	95	96	85	93	94	74	94	90
		O	50	50	-	49	50	50	49	50
		P	25	26	-	27	26	26	29	27
10	ISK I 2017-10	PS	192	334	139	237	269	324	269	252
		D	108	98	114	107	109	102	106	106
		S	72	73	68	68	71	69	74	71
		HKW	41	39	40	41	32	35	54	40
		SMK	98	96	79	89	94	74	89	88
		O	52	50	-	52	53	52	49	51
		P	28	30	-	30	29	27	31	29
11	ISK I 2017-11	PS	166	332	61	235	284	174	228	211
		D	108	110	120	107	110	98	107	109
		S	64	71	62	66	58	69	74	66
		HKW	42	43	46	45	35	38	61	44
		SMK	96	91	86	89	91	74	99	89
		O	50	49	-	51	50	52	51	51
		P	25	27	-	27	26	25	29	27
12	ISK I 2017-12	PS	173	333	84	225	259	269	291	234
		D	110	100	116	107	105	98	107	106
		S	76	74	72	70	65	67	74	71
		HKW	41	48	47	38	35	39	57	44
		SMK	96	95	87	83	97	76	98	90
		O	50	49	-	49	51	51	48	50
		P	27	29	-	27	27	26	29	28
13	ISK I 2017-14	PS	220	340	191	273	291	326	314	279
		D	106	112	115	107	113	105	106	109
		S	73	73	69	69	63	67	73	69
		HKW	38	44	46	35	29	36	46	39
		SMK	94	94	87	86	85	75	98	88
		O	51	50	-	51	51	52	51	51
		P	29	30	-	29	28	28	29	29
14	ISK I 2017-15	PS	181	339	146	295	288	354	326	276
		D	110	106	119	107	110	98	108	108
		S	71	72	60	69	65	67	72	68
		HKW	47	43	48	36	37	45	55	44
		SMK	92	92	84	90	95	81	94	90
		O	50	50	-	48	51	51	50	50
		P	24	25	-	24	24	24	27	25
15	ISK I 2017-16	PS	172	337	146	276	302	243	328	258
		D	112	112	124	107	109	96	105	109
		S	72	74	67	67	61	67	73	69
		HKW	33	36	40	32	30	33	40	35
		SMK	93	94	87	88	91	71	94	88
		O	52	50	-	52	52	51	51	51
		P	28	29	-	30	28	28	30	29
16	ISK I 2017-18	PS	190	342	113	248	308	271	321	256
		D	115	103	117	107	106	96	108	107
		S	69	69	58	64	66	63	67	65
		HKW	44	42	47	35	39	41	50	43
		SMK	97	95	82	86	95	80	91	89
		O	50	50	-	49	51	52	49	50
		P	26	26	-	26	25	27	28	26

S.N.	Entry	Trait	Dharwad	Raichur	Hiriyur	Tirupati	Jagtial	Vriddhachalam	Tindivanam	Mean
17	ISK I 2017-19	PS	187	337	159	291	297	296	318	269
		D	115	103	119	107	109	97	105	108
		S	69	62	63	66	60	67	68	65
		HKW	37	40	40	30	27	35	45	36
		SMK	94	93	79	83	86	65	84	83
		O	51	50	-	51	52	51	51	51
		P	25	28	-	27	26	26	28	27
18	ISK I 2017-20	PS	199	337	178	281	279	331	306	273
		D	108	99	119	107	111	98	107	107
		S	69	65	69	66	64	67	68	67
		HKW	28	33	37	36	23	33	38	33
		SMK	92	93	87	90	90	70	98	88
		O	53	51	-	54	53	55	52	53
		P	26	27	-	29	27	25	28	27
19	ISK I 2017-22	PS	187	341	168	267	299	285	277	261
		D	110	101	120	107	113	102	107	109
		S	73	68	70	71	66	69	71	70
		HKW	36	40	52	37	30	35	42	39
		SMK	93	94	82	80	91	76	96	87
		O	51	50	-	51	50	52	50	51
		P	28	29	-	29	27	28	27	28
20	ISK I 2017-36	PS	186	340	185	231	293	312	329	268
		D	110	102	117	107	111	97	107	107
		S	71	68	64	66	65	68	70	67
		HKW	30	35	33	31	21	33	37	31
		SMK	95	95	81	90	85	65	91	86
		O	49	49	-	50	49	50	48	49
		P	24	25	-	25	26	24	25	25
21	ISK I 2017-37	PS	177	334	163	273	304	377	328	280
		D	110	112	115	107	113	97	107	109
		S	76	70	70	66	57	62	65	66
		HKW	28	35	37	30	25	28	33	31
		SMK	84	93	83	85	87	62	76	82
		O	53	51	-	53	52	52	52	52
		P	27	28	-	28	26	25	25	27
22	ISK I 2017-38	PS	205	341	135	272	303	343	327	275
		D	110	111	114	107	109	98	107	108
		S	73	70	67	69	65	67	71	69
		HKW	32	38	40	30	24	31	42	34
		SMK	94	95	85	93	90	69	95	89
		O	50	50	-	49	48	49	49	49
		P	23	25	-	26	25	25	27	25
23	ISK I 2017-39	PS	185	339	139	254	300	317	227	252
		D	106	102	115	107	111	105	107	108
		S	71	74	71	69	68	65	72	70
		HKW	28	35	38	29	27	32	39	33
		SMK	92	94	87	89	90	65	93	87
		O	51	50	-	51	52	52	50	51
		P	25	28	-	27	26	26	29	27
Final plant stand (000/ha)										
	G.M		184	337	137	250	288	286	291	253
	S.E. Diff. Mean		15.1	2.9	19.5	23.9	20.5	26.3	8.5	18.4
	CD at 5%		NS	5.7	39.0	47.8	NS	52.5	17.0	36.2
	CV %		11.6	1.2	20.2	13.6	10.0	13.0	4.1	10.3

ZONE I

Table 6a: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2017

Pod yield (kg/ha)

S.N.	Entry	Mainpuri	Durgapura	Bikaner	Ludhiana	Bawal	Mean	R
1	IVK I 2017-1	1836	4135	4309	1887	2296	2893	5
2	IVK I 2017-2	1245	5048	4119	2033	3274	3144	3
3	IVK I 2017-3	1182	3170	4006	1374	1570	2260	14
4	IVK I 2017-4	1576	3791	3933	1753	1748	2560	9
5	IVK I 2017-5	1702	4304	3261	3129	3022	3084	4
6	IVK I 2017-6	1544	2888	3552	2457	1793	2447	12
7	IVK I 2017-7	1166	2857	3024	1713	2459	2244	15
8	IVK I 2017-8	1545	2695	3442	1781	1719	2236	16
9	IVK I 2017-9	1024	2203	2672	1463	1719	1816	20
10	IVK I 2017-10	2096	2851	3259	1916	1570	2338	13
11	IVK I 2017-11	1576	3053	3976	933	1526	2213	17
12	IVK I 2017-12	1529	3195	4043	792	1496	2211	18
13	IVK I 2017-14	1655	4190	4367	1544	1822	2716	8
14	IVK I 2017-15	1103	3278	3586	1390	1600	2192	19
15	IVK I 2017-16	1229	3256	4002	1878	2385	2550	10
16	IVK I 2017-17	1970	3452	3984	1893	2726	2805	6
17	IVK I 2017-18	2333	4354	4372	3013	2815	3377	1
18	IVK I 2017-19	1592	5162	4568	2334	2948	3321	2
19	IVK I 2017-20	1103	3672	4675	1754	1443	2529	11
20	IVK I 2017-21	1277	4736	4123	909	2756	2760	7
	G.M	1514	3614	3864	1797	2134	2585	
	S.E. Diff. Mean	56.5	204.4	651.1	156.5	91.6	316.8	
	CD at 5%	113.1	409.3	NS	313.4	183.5	623.5	
	CV %	5.3	8.0	23.8	12.3	6.1	17.3	

Table 6b: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2017

Kernel yield (kg/ha)

S.N.	Entry	Mainpuri	Durgapura	Bikaner	Ludhiana	Bawal	Mean	R
1	IVK I 2017-1	1250	3015	2545	1336	1493	1927	5
2	IVK I 2017-2	834	3629	1988	1475	2192	2023	3
3	IVK I 2017-3	815	2153	2046	974	898	1377	18
4	IVK I 2017-4	1103	2676	1960	1211	1060	1602	11
5	IVK I 2017-5	1209	2921	1687	2241	1963	2004	4
6	IVK I 2017-6	1081	1844	2159	1799	1144	1605	10
7	IVK I 2017-7	828	1877	1563	1218	1664	1430	15
8	IVK I 2017-8	1081	1872	1877	1191	1138	1432	14
9	IVK I 2017-9	697	1528	1390	1069	1131	1163	20
10	IVK I 2017-10	1510	1900	1746	1272	1006	1487	13
11	IVK I 2017-11	1135	2133	2105	697	1027	1419	16
12	IVK I 2017-12	1055	2217	1942	568	973	1351	19
13	IVK I 2017-14	1124	2789	2486	1120	1158	1736	7
14	IVK I 2017-15	772	2114	2112	1017	1016	1406	17
15	IVK I 2017-16	849	2381	2117	1373	1578	1659	9
16	IVK I 2017-17	1379	2274	2270	1357	1701	1796	6
17	IVK I 2017-18	1656	2910	2407	2121	1852	2189	1
18	IVK I 2017-19	1084	3302	2286	1664	2102	2088	2
19	IVK I 2017-20	761	2415	2520	1283	802	1556	12
20	IVK I 2017-21	893	3107	2156	674	1792	1724	8
	G.M	1056	2453	2068	1283	1384	1649	
	S.E. Diff. Mean	41.6	137.1	380.4	110.2	73.8	191.2	
	CD at 5%	83.3	274.5	NS	220.6	147.8	376.4	
	CV %	5.6	7.9	26.0	12.1	7.5	16.4	

Table 6c: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2017

Ancillary traits

S.N.	Entry	Trait	Mainpuri	Durgapura	Bikaner	Ludhiana	Bawal	Mean
1	IVK I 2017-1	PS	139	148	140	139	113	136
		D	118	126	-	112	124	120
		S	68	73	59	71	65	67
		HKW	32	60	-	45	61	50
		SMK	89	95	-	89	67	85
		O	52	51	-	53	-	52
		P	23	30	-	28	-	27
2	IVK I 2017-2	PS	123	149	132	142	140	137
		D	120	130	-	114	126	123
		S	67	72	48	73	67	65
		HKW	36	72	-	63	72	61
		SMK	94	94	-	80	71	85
		O	50	49	-	53	-	51
		P	21	29	-	26	-	25
3	IVK I 2017-3	PS	143	149	127	66	136	124
		D	119	126	-	109	124	119
		S	69	68	51	71	57	63
		HKW	33	56	-	44	55	47
		SMK	95	93	-	87	59	84
		O	51	51	-	52	-	51
		P	22	29	-	28	-	26
4	IVK I 2017-4	PS	136	146	131	122	132	133
		D	117	128	-	115	127	122
		S	70	71	49	69	61	64
		HKW	35	51	-	45	55	46
		SMK	94	90	-	88	65	84
		O	52	51	-	53	-	52
		P	21	29	-	27	-	26
5	IVK I 2017-5	PS	137	141	133	129	135	135
		D	116	130	-	117	124	122
		S	71	68	52	72	65	66
		HKW	30	40	-	37	48	39
		SMK	92	91	-	71	80	83
		O	51	51	-	53	-	52
		P	24	29	-	28	-	27
6	IVK I 2017-6	PS	142	136	131	116	89	123
		D	119	127	-	109	123	119
		S	70	64	59	73	64	66
		HKW	33	55	-	47	64	50
		SMK	90	90	-	80	82	85
		O	53	50	-	55	-	53
		P	20	29	-	26	-	25
7	IVK I 2017-7	PS	134	146	141	99	116	127
		D	120	128	-	107	124	120
		S	71	66	53	71	68	66
		HKW	35	50	-	45	63	48
		SMK	95	92	-	87	85	90
		O	54	50	-	55	-	53
		P	20	29	-	26	-	25

S.N.	Entry	Trait	Mainpuri	Durgapura	Bikaner	Ludhiana	Bawal	Mean
8	IVK I 2017-8	PS	136	146	140	114	141	135
		D	119	128	-	110	123	120
		S	70	69	56	67	66	66
		HKW	40	56	-	43	70	52
		SMK	94	90	-	81	77	85
		O	53	50	-	54	-	52
		P	22	29	-	26	-	26
9	IVK I 2017-9	PS	140	145	139	110	133	133
		D	118	129	-	115	126	122
		S	68	69	53	73	66	66
		HKW	32	57	-	33	45	42
		SMK	96	91	-	79	70	84
		O	47	51	-	50	-	49
		P	24	29	-	28	-	27
10	IVK I 2017-10	PS	142	138	134	109	139	132
		D	119	128	-	117	126	123
		S	72	67	54	66	64	65
		HKW	32	37	-	44	54	42
		SMK	92	90	-	87	89	89
		O	49	48	-	52	-	50
		P	24	28	-	28	-	27
11	IVK I 2017-11	PS	140	151	133	60	94	116
		D	122	129	-	109	123	121
		S	72	70	53	75	67	67
		HKW	40	56	-	42	60	50
		SMK	92	93	-	79	85	87
		O	53	50	-	55	-	53
		P	21	29	-	27	-	26
12	IVK I 2017-12	PS	136	145	134	59	140	123
		D	124	128	-	111	123	121
		S	69	69	48	72	65	65
		HKW	33	42	-	44	63	46
		SMK	90	93	-	89	90	90
		O	54	50	-	54	-	53
		P	20	30	-	26	-	25
13	IVK I 2017-14	PS	142	146	133	92	113	125
		D	120	130	-	107	124	120
		S	68	67	56	73	64	65
		HKW	35	52	-	49	52	47
		SMK	92	95	-	80	79	86
		O	49	50	-	52	-	50
		P	21	28	-	26	-	25
14	IVK I 2017-15	PS	134	149	135	97	137	130
		D	123	128	-	106	125	121
		S	70	65	59	73	63	66
		HKW	36	51	-	44	60	48
		SMK	90	93	-	86	67	84
		O	52	52	-	54	-	53
		P	21	29	-	27	-	26

S.N.	Entry	Trait	Mainpuri	Durgapura	Bikaner	Ludhiana	Bawal	Mean
15	IVK I 2017-16	PS	129	146	138	106	110	126
		D	120	128	-	110	126	121
		S	69	73	53	73	66	67
		HKW	38	56	-	49	61	51
		SMK	92	93	-	86	73	86
		O	50	49	-	51	-	50
		P	21	28	-	27	-	25
16	IVK I 2017-17	PS	139	149	134	101	108	126
		D	119	130	-	113	126	122
		S	70	66	57	72	62	65
		HKW	46	58	-	64	60	57
		SMK	94	92	-	87	63	84
		O	47	49	-	52	-	49
		P	22	28	-	28	-	26
17	IVK I 2017-18	PS	140	142	138	136	109	133
		D	122	129	-	115	124	123
		S	71	67	55	70	66	66
		HKW	48	67	-	60	61	59
		SMK	95	93	-	82	61	83
		O	49	48	-	52	-	50
		P	21	28	-	25	-	25
18	IVK I 2017-19	PS	132	151	140	114	120	132
		D	118	127	-	116	125	121
		S	68	64	50	71	71	65
		HKW	39	62	-	48	54	51
		SMK	92	96	-	84	84	89
		O	50	50	-	54	-	51
		P	20	29	-	25	-	25
19	IVK I 2017-20	PS	129	149	139	115	45	115
		D	114	129	-	114	126	121
		S	69	66	54	73	56	64
		HKW	35	65	-	51	49	50
		SMK	93	95	-	82	56	81
		O	50	50	-	52	-	51
		P	20	28	-	26	-	25
20	IVK I 2017-21	PS	130	146	147	65	97	117
		D	117	129	-	116	126	122
		S	70	66	52	74	65	65
		HKW	40	65	-	72	66	61
		SMK	90	94	-	85	88	89
		O	50	50	-	54	-	51
		P	20	28	-	26	-	25
Final plant stand (000/ha)								
	GM		136	146	136	105	117	128
	S.E. Diff. Mean		4.4	3.9	5.1	7.4	4.3	5.2
	CD at 5%		8.8	7.9	NS	14.8	8.7	10.2
	CV %		4.6	3.8	5.3	10.0	5.2	5.7

ZONE II

Table 7a: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2017

Pod yield (kg/ha)

S.N.	Entry	Junagadh	Amreli	Talod	Pratapgarh	Mean	R
1	IVK I 2017-1	1667	1030	2644	1182	1631	7
2	IVK I 2017-2	1829	1161	2423	1044	1614	8
3	IVK I 2017-3	2342	1355	2522	1359	1895	3
4	IVK I 2017-4	2061	808	2167	1182	1554	11
5	IVK I 2017-5	2633	1345	2088	1143	1802	4
6	IVK I 2017-6	2044	811	2088	946	1472	16
7	IVK I 2017-7	2392	1124	1635	965	1529	13
8	IVK I 2017-8	2275	753	1931	1064	1506	15
9	IVK I 2017-9	1983	988	1655	1753	1595	9
10	IVK I 2017-10	2319	1121	1970	1517	1732	6
11	IVK I 2017-11	1747	600	1931	1143	1355	17
12	IVK I 2017-12	2456	910	2463	1202	1758	5
13	IVK I 2017-22	1935	749	2364	1103	1538	12
14	IVK I 2017-23	2059	830	2073	1064	1506	14
15	IVK I 2017-24	2089	997	1970	1281	1584	10
16	IVK I 2017-25	2657	1264	2837	1300	2014	2
17	IVK I 2017-26	2742	1286	2955	1379	2090	1
	G.M	2190	1008	2218	1213	1657	
	S.E. Diff. Mean	156.5	81.2	204.8	104.7	144.9	
	CD at 5%	314.7	163.2	411.7	210.5	285.8	
	CV %	10.1	11.4	13.1	12.2	12.4	

Table 7b: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2017

Kernel yield (kg/ha)

S.N	Entry	Junagadh	Amreli	Talod	Pratapgarh	Mean	R
1	IVK I 2017-1	1087	616	1565	710	994	15
2	IVK I 2017-2	1162	687	1560	602	1003	12
3	IVK I 2017-3	1465	772	1541	814	1148	5
4	IVK I 2017-4	1393	482	1437	696	1002	13
5	IVK I 2017-5	1635	882	1441	681	1160	4
6	IVK I 2017-6	1467	530	1218	509	931	16
7	IVK I 2017-7	1717	736	1117	583	1038	7
8	IVK I 2017-8	1653	506	1274	591	1006	10
9	IVK I 2017-9	1442	640	1048	1143	1068	6
10	IVK I 2017-10	1537	636	1113	835	1030	8
11	IVK I 2017-11	1232	395	1300	652	894	17
12	IVK I 2017-12	1782	597	1709	686	1193	3
13	IVK I 2017-22	1314	496	1556	618	996	14
14	IVK I 2017-23	1415	551	1455	590	1003	11
15	IVK I 2017-24	1473	620	1259	694	1011	9
16	IVK I 2017-25	1626	806	1909	722	1266	2
17	IVK I 2017-26	1892	824	1971	738	1356	1
	G.M	1488	634	1439	698	1065	
	S.E. Diff. Mean	104.0	51.5	135.7	62.5	94.6	
	CD at 5%	209.1	103.5	272.8	125.6	186.5	
	CV %	9.9	11.5	13.3	12.7	12.6	

Table 7c: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2017

Ancillary traits

S.N.	Entry	Trait	Junagadh	Amreli	Talod	Pratapgarh	Mean
1	IVK I 2017-1	PS	146	103	145	128	131
		D	118	121	127	106	118
		S	65	60	59	60	61
		HKW	38	30	44	34	37
		SMK	91	93	-	86	90
		O	51	49	-	-	50
		P	26	26	-	-	26
2	IVK I 2017-2	PS	146	105	165	133	137
		D	121	122	126	106	119
		S	64	59	64	58	61
		HKW	41	31	52	31	39
		SMK	88	90	-	86	88
		O	51	47	-	-	49
		P	24	26	-	-	25
3	IVK I 2017-3	PS	146	107	150	134	134
		D	121	125	127	106	120
		S	63	57	61	60	60
		HKW	34	29	40	32	34
		SMK	93	87	-	85	88
		O	49	47	-	-	48
		P	25	26	-	-	26
4	IVK I 2017-4	PS	144	104	145	137	132
		D	118	125	126	106	119
		S	68	60	66	59	63
		HKW	41	29	42	28	35
		SMK	84	92	-	90	89
		O	53	49	-	-	51
		P	25	26	-	-	26
5	IVK I 2017-5	PS	143	106	164	135	137
		D	122	124	127	106	120
		S	62	66	69	60	64
		HKW	33	29	42	29	33
		SMK	92	94	-	87	91
		O	50	50	-	-	50
		P	28	28	-	-	28
6	IVK I 2017-6	PS	146	105	140	136	132
		D	119	120	127	106	118
		S	72	65	58	54	62
		HKW	51	39	42	31	41
		SMK	97	97	-	89	94
		O	52	51	-	-	52
		P	27	27	-	-	27

S.N.	Entry	Trait	Junagadh	Amreli	Talod	Pratapgarh	Mean
7	IVK I 2017-7	PS	145	106	131	135	129
		D	119	118	126	106	117
		S	72	66	68	60	66
		HKW	56	43	50	33	46
		SMK	99	97	-	88	95
		O	54	51	-	-	53
		P	26	27	-	-	27
8	IVK I 2017-8	PS	145	103	133	137	129
		D	119	123	125	106	118
		S	73	67	66	56	65
		HKW	51	44	44	30	42
		SMK	91	99	-	88	93
		O	53	50	-	-	52
		P	27	27	-	-	27
9	IVK I 2017-9	PS	145	109	158	135	137
		D	120	124	125	107	119
		S	73	65	63	65	66
		HKW	37	32	48	30	37
		SMK	82	94	-	90	89
		O	49	47	-	-	48
		P	27	28	-	-	28
10	IVK I 2017-10	PS	147	106	152	135	135
		D	118	118	127	107	118
		S	66	57	57	55	59
		HKW	36	29	34	30	32
		SMK	91	86	-	87	88
		O	48	47	-	-	48
		P	26	26	-	-	26
11	IVK I 2017-11	PS	145	102	150	133	132
		D	121	126	127	107	120
		S	71	66	67	57	65
		HKW	51	40	46	40	44
		SMK	95	97	-	90	94
		O	52	51	-	-	52
		P	27	27	-	-	27
12	IVK I 2017-12	PS	144	107	153	137	135
		D	119	120	127	106	118
		S	73	66	69	57	66
		HKW	50	44	50	34	44
		SMK	96	97	-	90	94
		O	53	50	-	-	52
		P	26	26	-	-	26

S.N.	Entry	Trait	Junagadh	Amreli	Talod	Pratapgarh	Mean
13	IVK I 2017-22	PS	145	107	154	135	135
		D	118	124	126	107	119
		S	68	66	66	56	64
		HKW	50	41	48	35	44
		SMK	96	97	-	88	93
		O	53	50	-	-	52
		P	27	27	-	-	27
14	IVK I 2017-23	PS	147	107	150	135	135
		D	118	118	127	106	117
		S	69	66	70	56	65
		HKW	52	40	50	29	43
		SMK	97	96	-	85	93
		O	52	50	-	-	51
		P	27	27	-	-	27
15	IVK I 2017-24	PS	144	109	169	136	140
		D	119	127	129	107	121
		S	71	62	64	54	63
		HKW	49	39	44	31	41
		SMK	97	94	-	90	94
		O	52	50	-	-	51
		P	26	27	-	-	27
16	IVK I 2017-25	PS	145	105	126	135	128
		D	121	119	128	107	119
		S	61	64	67	55	62
		HKW	27	28	36	33	31
		SMK	81	93	-	90	88
		O	50	50	-	-	50
		P	27	28	-	-	28
17	IVK I 2017-26	PS	143	102	148	136	132
		D	120	126	129	107	120
		S	69	64	67	54	64
		HKW	39	28	34	33	33
		SMK	81	95	-	89	88
		O	50	49	-	-	50
		P	28	28	-	-	28
Final plant stand (000/ha)							
	GM		145	105	149	135	134
	S.E. Diff. Mean		2.2	2.9	7.8	3.2	4.6
	CD at 5%		NS	NS	15.7	NS	9.1
	CV %		2.2	3.9	7.4	3.4	4.9

ZONE IV

Table 8a: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2017

Pod yield (kg/ha)

S.N.	Entry	Bhubaneswar	Kanke	Imphal	Mohanpur	Mean	R
1	IVK I 2017-1	1785	1576	2962	2248	2143	15
2	IVK I 2017-2	1608	1391	3756	2228	2245	10
3	IVK I 2017-3	1635	1418	3376	1889	2079	17
4	IVK I 2017-4	1753	1174	3300	2208	2109	16
5	IVK I 2017-5	1891	1221	3392	3766	2568	4
6	IVK I 2017-6	1832	1320	3436	2149	2184	13
7	IVK I 2017-7	1813	1757	3719	2149	2359	7
8	IVK I 2017-8	2010	1493	3405	1932	2210	11
9	IVK I 2017-9	2325	1568	3653	2169	2429	6
10	IVK I 2017-10	1931	1982	3392	1893	2299	9
11	IVK I 2017-11	1675	1552	3599	1972	2199	12
12	IVK I 2017-12	2088	1706	3672	1223	2172	14
13	IVK I 2017-26	1734	1359	3631	3726	2613	3
14	IVK I 2017-27	2246	1785	3476	1853	2340	8
15	IVK I 2017-28	2404	1537	3688	2228	2464	5
16	IVK I 2017-29	2167	1576	3969	3273	2746	1
17	IVK I 2017-30	1970	2010	3924	2711	2654	2
	G.M	1933	1554	3550	2330	2342	
	S.E. Diff. Mean	63.7	164.1	345.8	361.3	265.1	
	CD at 5%	128.1	330.0	NS	726.5	522.9	
	CV %	4.7	14.9	13.8	21.9	16.0	

Table 8b: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2017

Kernel yield (kg/ha)

S.N.	Entry	Bhubaneswar	Kanke	Imphal	Mohanpur	Mean	R
1	IVK I 2017-1	1061	1132	2121	1477	1448	15
2	IVK I 2017-2	927	949	2800	1569	1561	8
3	IVK I 2017-3	944	983	2380	1319	1406	17
4	IVK I 2017-4	1042	855	2360	1524	1445	16
5	IVK I 2017-5	1130	843	2509	2663	1786	4
6	IVK I 2017-6	1192	900	2511	1437	1510	13
7	IVK I 2017-7	1191	1247	2772	1495	1676	6
8	IVK I 2017-8	1257	1041	2508	1361	1542	12
9	IVK I 2017-9	1684	1041	2627	1570	1730	5
10	IVK I 2017-10	1140	1344	2393	1340	1554	10
11	IVK I 2017-11	1121	1033	2640	1382	1544	11
12	IVK I 2017-12	1467	1036	2644	859	1501	14
13	IVK I 2017-26	1015	967	2694	2642	1829	2
14	IVK I 2017-27	1309	1128	2476	1314	1556	9
15	IVK I 2017-28	1382	934	2725	1561	1650	7
16	IVK I 2017-29	1366	1024	2967	2314	1918	1
17	IVK I 2017-30	1134	1411	2798	1905	1812	3
	G.M	1198	1051	2584	1631	1616	
	S.E. Diff. Mean	55.4	120.2	255.9	245.4	189.2	
	CD at 5%	111.4	241.7	NS	493.5	373.3	
	CV %	6.5	16.2	14.0	21.3	16.6	

Table 8c: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2017

Ancillary traits

S.No	Entry	Trait	Bhubaneswar	Kanke	Imphal	Mohanpur	Mean
1	IVK I 2017-1	PS	131	109	142	131	128
		D	105	118	126	111	115
		S	60	72	72	66	67
		HKW	29	63	64	40	49
		SMK	75	90	65	89	80
		O	49	-	54	55	53
		P	25	-	24	23	24
2	IVK I 2017-2	PS	124	104	136	122	121
		D	108	112	125	108	113
		S	58	68	75	71	68
		HKW	31	51	86	42	52
		SMK	73	82	63	86	76
		O	47	-	51	53	50
		P	24	-	25	22	24
3	IVK I 2017-3	PS	115	113	132	126	122
		D	109	110	125	109	113
		S	58	69	71	70	67
		HKW	27	52	72	44	49
		SMK	73	84	64	86	77
		O	47	-	53	50	50
		P	24	-	28	24	25
4	IVK I 2017-4	PS	127	106	144	101	120
		D	105	124	125	107	115
		S	60	73	72	69	69
		HKW	28	55	69	42	48
		SMK	75	77	64	85	75
		O	50	-	54	54	53
		P	24	-	27	24	25
5	IVK I 2017-5	PS	115	107	140	128	123
		D	107	111	126	110	113
		S	60	69	74	71	68
		HKW	27	62	57	40	46
		SMK	76	81	68	86	78
		O	50	-	52	52	51
		P	27	-	28	28	28
6	IVK I 2017-6	PS	127	115	146	120	127
		D	106	117	126	110	115
		S	65	68	73	67	68
		HKW	29	61	82	42	54
		SMK	80	88	67	84	80
		O	52	-	55	59	55
		P	22	-	24	22	23

S.No	Entry	Trait	Bhubaneswar	Kanke	Imphal	Mohanpur	Mean
7	IVK I 2017-7	PS	113	121	139	126	125
		D	105	119	127	104	114
		S	66	71	75	70	70
		HKW	34	66	83	40	56
		SMK	81	84	70	86	80
		O	51	-	56	54	54
		P	24	-	22	21	22
8	IVK I 2017-8	PS	136	121	139	101	124
		D	107	123	134	106	117
		S	63	70	74	71	69
		HKW	31	51	70	40	48
		SMK	78	78	70	86	78
		O	50	-	56	53	53
		P	26	-	23	22	24
9	IVK I 2017-9	PS	120	110	141	107	120
		D	106	115	125	107	113
		S	73	66	72	73	71
		HKW	40	55	56	37	47
		SMK	85	74	65	88	78
		O	48	-	50	49	49
		P	27	-	27	27	27
10	IVK I 2017-10	PS	119	129	138	115	125
		D	107	126	132	111	119
		S	59	68	71	71	67
		HKW	27	62	70	40	50
		SMK	75	82	65	85	77
		O	49	-	52	48	50
		P	28	-	27	24	26
11	IVK I 2017-11	PS	119	118	145	119	125
		D	108	109	125	110	113
		S	67	66	73	70	69
		HKW	33	52	80	40	51
		SMK	82	75	71	85	78
		O	52	-	53	51	52
		P	26	-	25	22	24
12	IVK I 2017-12	PS	113	132	144	114	126
		D	103	119	124	111	114
		S	70	61	72	70	68
		HKW	35	45	89	42	53
		SMK	84	82	70	87	81
		O	51	-	54	52	52
		P	23	-	25	22	23

S.No	Entry	Trait	Bhubaneswar	Kanke	Imphal	Mohanpur	Mean
13	IVK I 2017-26	PS	126	115	143	122	126
		D	106	121	128	109	116
		S	59	71	74	71	69
		HKW	25	49	53	38	41
		SMK	74	93	68	88	81
		O	49	-	52	51	51
		P	26	-	27	27	27
14	IVK I 2017-27	PS	126	121	146	117	127
		D	107	118	126	109	115
		S	58	63	71	71	66
		HKW	31	60	73	42	52
		SMK	73	90	67	87	79
		O	48	-	55	51	51
		P	25	-	27	24	25
15	IVK I 2017-28	PS	119	115	144	114	123
		D	105	124	124	111	116
		S	58	61	74	70	66
		HKW	30	66	65	42	51
		SMK	74	82	69	88	78
		O	49	-	53	50	51
		P	25	-	26	25	25
16	IVK I 2017-29	PS	119	115	129	98	115
		D	105	114	124	110	113
		S	63	65	75	71	68
		HKW	33	51	69	54	52
		SMK	78	78	72	88	79
		O	49	-	53	50	51
		P	23	-	23	22	23
17	IVK I 2017-30	PS	116	121	144	117	124
		D	106	123	125	112	117
		S	58	70	71	70	67
		HKW	29	63	61	48	50
		SMK	73	83	62	88	76
		O	49	-	53	48	50
		P	25	-	25	25	25
Final plant stand (000/ha)							
	GM		122	116	141	116	124
	S.E. Diff. Mean		5.6	8.1	5.7	7.2	6.7
	CD at 5%		11.2	NS	NS	14.6	13.3
	CV %		6.5	9.8	5.7	8.8	7.7

ZONE V

Table 9a: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2017

Pod yield (kg/ha)

S.N.	Entry	Dharwad	Raichur	Hiriyur	Vriddhachalam	Tindivanam	Jagtial	Tirupati	Digraj	Mean	R
1	IVK I 2017-1	2556	2291	687	2533	2319	2139	1822	1314	1957	13
2	IVK I 2017-2	2402	2499	682	1975	2542	3065	956	1360	1935	14
3	IVK I 2017-3	2775	1917	1122	2542	3126	2423	1844	1480	2154	9
4	IVK I 2017-4	2586	2324	809	2066	2013	1946	1459	1557	1845	15
5	IVK I 2017-5	4391	3187	1470	3682	2214	5028	3373	1696	3130	1
6	IVK I 2017-6	3426	2371	758	2987	2395	1864	1936	1793	2191	7
7	IVK I 2017-7	3566	2452	892	3219	2168	1671	2380	1424	2221	6
8	IVK I 2017-8	3600	2307	692	3169	2091	1883	1222	1507	2059	12
9	IVK I 2017-9	3823	1981	1610	2678	2022	2640	2427	2013	2399	4
10	IVK I 2017-10	2919	1728	1178	2843	2641	2809	1697	2002	2227	5
11	IVK I 2017-11	3296	1920	787	3532	2307	1923	1650	1363	2097	11
12	IVK I 2017-12	3662	2090	800	2797	2530	1809	1927	1407	2128	10
13	IVK I 2017-25	3121	2646	1115	3323	2760	3006	3183	1336	2561	3
14	IVK I 2017-26	4204	3076	1696	3468	2759	4054	3132	2151	3067	2
15	IVK I 2017-31	2887	2265	1047	2611	2366	2916	1636	1667	2174	8
	G.M	3281	2337	1023	2895	2417	2612	2043	1605	2276	
	S.E. Diff. Mean	338.3	169.5	148.5	335.4	129.6	236.4	445.9	146.0	267.1	
	CD at 5%	682.7	342.0	299.8	676.8	261.6	477.1	900.0	294.6	525.3	
	CV %	14.6	10.3	20.5	16.4	7.6	12.8	30.9	12.9	16.6	

Table 9b: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2017

Kernel yield (kg/ha)

S.N.	Entry	Dharwad	Raichur	Hiriyur	Vriddhachalam	Tindivanam	Jagtial	Tirupati	Digraj	Mean	R
1	IVK I 2017-1	1838	1590	484	1585	1539	1416	1228	868	1318	13
2	IVK I 2017-2	1767	1713	483	1284	1703	1923	668	923	1308	14
3	IVK I 2017-3	1997	1251	744	1653	2258	1600	1211	1015	1466	12
4	IVK I 2017-4	1862	1498	564	1357	1341	1306	999	1017	1243	15
5	IVK I 2017-5	3326	2148	1003	2534	1598	3430	2286	1148	2184	1
6	IVK I 2017-6	2593	1664	540	2097	1658	1225	1358	1210	1543	6
7	IVK I 2017-7	2741	1727	658	2277	1504	1175	1650	1039	1596	5
8	IVK I 2017-8	2761	1613	481	2269	1482	1339	874	1148	1496	11
9	IVK I 2017-9	2974	1415	1170	1955	1458	1906	1779	1492	1769	4
10	IVK I 2017-10	2141	1158	829	1847	1740	1869	1135	1377	1512	9
11	IVK I 2017-11	2572	1287	547	2521	1636	1292	1202	993	1506	10
12	IVK I 2017-12	2780	1497	549	1962	1778	1269	1382	968	1523	7
13	IVK I 2017-25	2302	1795	730	2186	2054	2005	2168	916	1769	3
14	IVK I 2017-26	3170	2183	1197	2406	1400	2706	2210	1507	2097	2
15	IVK I 2017-31	2133	1523	763	1698	1735	1988	1116	1180	1517	8
	G.M	2464	1604	716	1975	1659	1763	1418	1120	1590	
	S.E. Diff. Mean	262.1	124.2	107.6	247.7	89.9	173.3	294.3	104.5	191.3	
	CD at 5%	529.0	250.7	217.2	499.9	181.4	349.7	594.0	210.9	376.3	
	CV %	15.0	11.0	21.3	17.7	7.7	13.9	29.4	13.2	17.0	

Table 9c: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2017

Ancillary traits

S.N	Entry	Trait	Dharwad	Raichur	Hiriyur	Vriddhachalam	Tindivanam	Jagtial	Tirupati	Digraj	Mean
1	IVK I 2017-1	PS	125	151	105	203	146	129	115	143	140
		D	-	110	114	118	113	108	113	116	113
		S	72	70	70	62	66	66	67	66	67
		HKW	56	47	43	45	62	38	45	42	47
		SMK	96	90	87	79	91	95	84	92	89
		O	52	50	-	52	52	54	52	52	52
		P	26	26	-	26	26	24	26	22	25
2	IVK I 2017-2	PS	117	151	83	165	141	136	99	143	129
		D	-	111	118	118	113	108	113	116	114
		S	74	68	72	65	67	63	70	68	68
		HKW	52	45	40	47	66	39	41	24	44
		SMK	97	92	87	80	73	92	82	86	86
		O	47	49	-	49	50	53	49	47	49
		P	25	25	-	26	27	23	23	23	25
3	IVK I 2017-3	PS	114	152	104	169	144	130	107	144	133
		D	-	113	117	120	113	109	113	119	115
		S	73	66	66	65	72	66	67	69	68
		HKW	46	42	41	44	64	37	46	28	43
		SMK	96	92	93	81	92	93	82	88	90
		O	50	47	-	51	50	53	50	48	50
		P	27	27	-	25	29	25	27	24	26
4	IVK I 2017-4	PS	135	150	104	195	143	130	113	143	139
		D	-	107	116	115	113	102	113	120	112
		S	72	65	69	65	67	67	69	65	67
		HKW	48	49	43	49	61	38	42	37	46
		SMK	96	94	82	78	97	90	84	91	89
		O	51	51	-	53	53	55	52	50	52
		P	24	25	-	27	26	23	25	20	24
5	IVK I 2017-5	PS	122	150	107	173	114	136	124	141	133
		D	-	109	113	115	115	104	113	118	112
		S	76	68	68	69	72	68	67	68	69
		HKW	44	40	39	39	54	33	36	29	39
		SMK	96	91	86	81	96	93	87	92	90
		O	50	49	-	52	52	52	52	51	51
		P	29	28	-	27	28	28	29	27	28
6	IVK I 2017-6	PS	140	150	112	203	145	127	112	142	141
		D	-	104	115	115	113	98	113	118	111
		S	76	70	71	70	69	65	70	67	70
		HKW	54	52	47	53	61	44	48	41	50
		SMK	96	94	88	92	94	94	86	92	92
		O	51	51	-	54	53	55	52	53	53
		P	25	26	-	25	26	25	24	23	25
7	IVK I 2017-7	PS	119	151	111	199	143	133	128	140	140
		D	-	113	114	116	113	97	113	119	112
		S	77	71	74	71	69	71	70	73	72
		HKW	63	53	43	52	61	42	49	36	50
		SMK	99	94	92	89	97	94	89	91	93
		O	50	50	-	53	52	53	52	53	52
		P	25	26	-	26	26	25	25	29	26
8	IVK I 2017-8	PS	134	149	97	191	145	132	98	140	136
		D	-	113	118	116	113	98	113	119	113
		S	76	70	69	72	71	71	71	76	72
		HKW	57	55	50	54	60	44	51	35	51
		SMK	98	94	92	94	97	94	89	94	94
		O	51	50	-	53	55	53	53	54	53
		P	25	27	-	26	26	25	24	20	25

S.N	Entry	Trait	Dharwad	Raichur	Hiriyur	Vriddhachalam	Tindivanam	Jagtial	Tirupati	Digraj	Mean
9	IVK I 2017-9	PS	134	149	123	175	145	132	133	141	142
		D	-	113	115	115	113	100	113	114	112
		S	78	72	73	73	72	72	74	74	73
		HKW	49	50	49	44	53	37	44	28	44
		SMK	98	93	90	85	98	93	91	89	92
		O	47	47	-	50	48	50	49	48	48
		P	27	28	-	27	28	27	28	25	27
10	IVK I 2017-10	PS	139	151	121	177	145	137	117	141	141
		D	-	104	114	116	116	103	113	117	112
		S	73	67	71	65	66	67	68	69	68
		HKW	48	51	44	46	58	38	45	31	45
		SMK	97	95	88	89	97	92	87	92	92
		O	49	48	-	50	49	53	50	47	49
		P	26	27	-	27	27	25	26	24	26
11	IVK I 2017-11	PS	138	148	89	216	145	138	126	140	143
		D	-	113	117	118	113	98	113	114	112
		S	78	67	70	71	71	68	73	73	71
		HKW	61	53	47	52	60	40	50	32	49
		SMK	98	96	89	92	96	94	89	93	93
		O	50	50	-	53	54	56	52	52	52
		P	25	26	-	25	26	23	25	21	24
12	IVK I 2017-12	PS	132	150	94	189	145	126	112	141	136
		D	-	118	115	118	113	99	113	121	114
		S	76	72	68	70	70	70	72	69	71
		HKW	63	52	45	52	63	42	49	33	50
		SMK	98	94	88	92	94	94	90	92	93
		O	51	50	-	52	54	55	52	51	52
		P	26	26	-	25	26	23	24	20	24
13	IVK I 2017-25	PS	123	151	98	143	145	132	123	138	132
		D	-	119	116	116	115	104	113	122	115
		S	74	68	65	66	74	67	69	69	69
		HKW	42	47	37	37	43	33	38	28	38
		SMK	98	93	84	82	95	93	89	88	90
		O	50	49	-	51	51	53	51	50	51
		P	29	29	-	27	27	28	29	26	28
14	IVK I 2017-26	PS	130	150	110	181	134	133	129	139	138
		D	-	111	116	115	115	104	113	118	113
		S	75	71	71	69	51	67	71	70	68
		HKW	45	42	40	37	46	32	40	32	39
		SMK	98	93	89	85	95	94	85	94	92
		O	50	49	-	51	52	52	51	52	51
		P	29	30	-	29	28	27	29	27	28
15	IVK I 2017-31	PS	134	150	106	192	145	139	133	138	142
		D	-	109	114	118	116	104	113	118	113
		S	74	68	73	65	73	68	69	71	70
		HKW	55	55	47	53	62	44	53	29	50
		SMK	98	94	88	88	89	91	87	92	91
		O	50	48	-	50	50	52	50	49	50
		P	27	27	-	26	25	27	27	24	26
Final plant stand (000/ha)											
	GM		129	150	104	185	142	133	118	141	138
	S.E. Diff. Mean		9.1	1.1	12.6	17.0	4.2	6.5	10.9	2.3	9.5
	CD at 5%		NS	NS	NS	34.3	8.4	NS	22.1	NS	18.6
	CV %		10.0	1.1	17.1	13.0	4.2	6.9	13.1	2.3	9.3

Table 10a: LARGE SEEDED VARIETAL TRIAL KHARIF 2017

Pod yield (kg/ha)

S.N.	Entry	Ludhiana	Shirgaon	Dharwad	Junagadh	Rahuri	Mean	R
1	LSVT-I- 2017-1	2992	2194	2993	2326	2920	2685	1
2	LSVT-I- 2017-2	2621	1968	2879	2430	2321	2444	4
3	LSVT-I- 2017-3	2750	2318	1539	2402	2724	2347	7
4	LSVT-I- 2017-4	2073	1987	3263	2149	2354	2365	6
5	LSVT-I- 2017-5	2304	1808	2466	2741	2824	2429	5
6	LSVT-I- 2017-6	3012	1406	2656	2447	3336	2571	2
7	LSVT-I- 2017-7	2225	2227	2937	2386	2676	2490	3
8	LSVT-I- 2017-8	1969	1685	2428	2521	2923	2305	8
9	LSVT-I- 2017-9	804	1621	2586	1777	2711	1900	10
10	LSVT-I- 2017-11	2345	1617	2869	2533	2085	2290	9
	G.M	2309	1883	2662	2371	2687	2382	
	S.E. Diff. Mean	268.7	180.5	322.0	176.9	223.2	240.7	
	CD at 5%	551.4	370.3	660.7	363.0	458.0	475.7	
	CV %	16.5	13.6	17.1	10.6	11.7	14.3	

Table 10b: LARGE SEEDED VARIETAL TRIAL KHARIF 2017

Kernel yield (kg/ha)

S.N.	Entry	Ludhiana	Shirgaon	Dharwad	Junagadh	Rahuri	Mean	R
1	LSVT-I- 2017-1	2107	1624	2193	1589	1878	1878	1
2	LSVT-I- 2017-2	1818	1379	2049	1620	1421	1657	5
3	LSVT-I- 2017-3	1895	1739	1107	1595	1570	1581	7
4	LSVT-I- 2017-4	1409	1394	2443	1548	1441	1647	6
5	LSVT-I- 2017-5	1661	1283	1835	1905	1956	1728	3
6	LSVT-I- 2017-6	2099	1114	1984	1643	2239	1816	2
7	LSVT-I- 2017-7	1553	1527	2209	1548	1629	1693	4
8	LSVT-I- 2017-8	1377	1180	1818	1589	1795	1552	9
9	LSVT-I- 2017-9	567	1151	1965	1276	1796	1351	10
10	LSVT-I- 2017-11	1617	1132	2108	1724	1309	1578	8
	G.M	1610	1352	1971	1604	1703	1648	
	S.E. Diff. Mean	202.1	134.5	246.3	120.8	167.8	180.2	
	CD at 5%	414.7	275.9	505.5	248.0	344.3	356.4	
	CV %	17.7	14.1	17.7	10.7	13.9	15.5	

Table 10c: LARGE SEEDED VARIETAL TRIAL KHARIF 2017

Ancillary traits

S.N.	Entry	Trait	Ludhiana	Shirgaon	Dharwad	Junagadh	Rahuri	Mean
1	LSVT-l- 2017-1	PS	115	139	115	145	284	160
		D	116	95	-	120	120	113
		S	70	74	73	68	65	70
		HKW	46	60	56	44	58	53
		SMK	82	84	99	99	95	92
		O	51	48	45	50	47	48
		P	27	29	26	25	27	27
2	LSVT-l- 2017-2	PS	110	137	120	147	283	159
		D	121	93	-	119	123	114
		S	69	70	71	67	61	68
		HKW	70	92	75	59	60	71
		SMK	79	83	96	87	94	88
		O	51	51	47	50	48	49
		P	27	29	25	25	24	26
3	LSVT-l- 2017-3	PS	93	140	126	147	283	158
		D	123	97	-	119	120	115
		S	69	75	72	66	58	68
		HKW	54	58	56	42	41	50
		SMK	87	82	98	97	95	92
		O	53	51	51	53	50	52
		P	28	30	27	25	25	27
4	LSVT-l- 2017-4	PS	69	132	114	147	283	149
		D	119	83	-	119	123	111
		S	68	70	75	72	61	69
		HKW	57	68	71	55	54	61
		SMK	80	81	98	94	95	90
		O	53	50	48	51	49	50
		P	28	30	26	27	25	27
5	LSVT-l- 2017-5	PS	105	134	109	147	286	156
		D	116	96	-	118	84	104
		S	72	71	74	70	69	71
		HKW	45	50	56	46	59	51
		SMK	78	83	98	96	94	90
		O	52	49	46	51	49	49
		P	27	30	26	25	27	27
6	LSVT-l- 2017-6	PS	113	139	108	147	294	160
		D	124	96	-	121	125	117
		S	70	79	75	67	67	72
		HKW	49	80	61	44	54	58
		SMK	88	83	99	92	95	91
		O	52	49	46	51	49	49
		P	27	30	26	24	27	27
7	LSVT-l- 2017-7	PS	98	139	136	147	293	163
		D	120	93	-	121	126	115
		S	70	69	75	65	61	68
		HKW	47	47	50	44	41	46
		SMK	86	82	98	95	93	91
		O	53	52	50	51	52	52
		P	28	30	26	26	26	27
8	LSVT-l- 2017-8	PS	88	142	120	147	284	156
		D	119	92	-	121	123	114
		S	70	70	75	63	62	68
		HKW	53	50	64	40	49	51
		SMK	85	84	98	94	90	90
		O	52	51	50	50	50	51
		P	29	31	26	26	25	27
9	LSVT-l- 2017-9	PS	45	130	129	147	292	148
		D	124	92	-	118	118	113
		S	71	71	76	72	66	71
		HKW	44	41	48	38	46	43
		SMK	83	84	96	93	93	90
		O	50	50	50	52	51	51
		P	28	30	28	25	25	27
10	LSVT-l- 2017-11	PS	81	135	121	147	273	151
		D	124	95	-	119	120	115
		S	69	70	73	68	63	69
		HKW	58	60	71	57	57	61
		SMK	84	85	96	92	94	90
		O	52	50	49	51	49	50
		P	28	29	25	26	23	26
Final plant stand (000/ha)								
	GM		92	136	120	147	285	156
	S.E. Diff. Mean		5.0	2.6	9.4	0.6	6.8	5.8
	CD at 5%		10.2	5.4	NS	NS	NS	11.4
	CV %		7.6	2.7	11.1	0.5	3.4	5.2

High Oil and High oleic Acid Varietal Trial (HOVT)

A special trial on High Oil and High oleic Acid Varietal Trial (HOVT) has been constituted with 19 elite genotypes developed on a DAC-GOI funded project mode by ICRISAT and the national collaborators namely, TNAU-Coimbatore; ANGRAU-Tirupati, JAU-Junagadh and ICAR-DGR, Junagadh for over a period of ten years along with check varieties. As there was only one high oil variety released at central level, ICGV 00343 (GJG 32), it was also used as a check. For high oleic acid there was none released at Central level.

There were six locations, Junagadh, Durgapura, Dharwad, Palem, Tirupati and Tindivanam. All the centres have conducted the trial and reported the data (**Tables 11a through 11c**).The mean yield levels of the test materials including those of check varieties were 2729 kg and 1815 kg per ha. The CV% was also well within the limits (around 12%) for pod as well as kernel yield.

The oil content (**Table 11c**) was also in the range of 50% to 54%. Oil content was 54% in 8 genotypes; 53% in 8 genotypes; 52% in 5 genotypes; and 50% in one genotype. As regards oleic content (**Table 11d**), 14 genotypes expressed around 80%; 79% in 1 genotype;75% in 2 genotype; <75% in 2 genotypes; ~62% in two genotypes and <60% in 2 genotypes. Oleic acid content was stable across the locations except for Durgapura where the expression of this trait has been found altered. It may either be due to environment or due to sampling error either of more over matured or immature kernels in the samples.

As such the trial has to be repeated for one more year, no decision needs to be taken regarding promotion/identification of these varieties.

Table 11a: HIGH OLEIC VARIETAL TRIAL (SB) KHARIF 2017

Pod yield (kg/ha)

S.N.	Entry	Junagadh	Durgapura	Dharwad	Palem	Tirupati	Tindivanam	Mean	R
1	HOVT 2017-1	2490	4294	3876	2899	3326	3243	3355	1
2	HOVT 2017-2	2678	3802	2935	2532	2423	2863	2872	10
3	HOVT 2017-3	3033	4456	3076	2348	3300	2784	3166	4
4	HOVT 2017-4	2950	4832	2957	2405	2966	3503	3269	2
5	HOVT 2017-5	1832	4161	2400	2678	2345	2801	2703	16
6	HOVT 2017-6	2370	4254	1930	2584	2681	2880	2783	12
7	HOVT 2017-7	2154	4213	2137	2812	2175	2794	2714	15
8	HOVT 2017-8	2135	4601	1904	2347	2525	2964	2746	13
9	HOVT 2017-9	2484	3825	2888	3101	2764	3072	3022	7
10	HOVT 2017-10	2398	4080	2776	3040	2977	2856	3021	8
11	HOVT 2017-11	2729	4369	2601	2690	1594	2745	2788	11
12	HOVT 2017-12	1965	4844	2607	2477	3062	4002	3159	5
13	HOVT 2017-13	1876	3079	2918	2543	2196	2546	2526	17
14	HOVT 2017-14	2498	3808	2130	2839	2581	2541	2733	14
15	HOVT 2017-15	1897	3912	2654	3003	2673	3146	2881	9
16	HOVT 2017-16	2253	4254	3661	2821	2887	2527	3067	6
17	HOVT 2017-17	1814	4173	1726	1887	1004	2485	2181	19
18	HOVT 2017-18	707	4022	2522	1420	1982	2547	2200	18
19	HOVT 2017-19	2324	4121	3825	3156	3680	2325	3238	3
20	HOVT 2017-20	885	3814	1792	1258	1209	1629	1764	22
21	HOVT 2017-21	821	4179	1873	1312	1579	2610	2062	20
22	HOVT 2017-22	726	4022	1895	1345	1386	1405	1796	21
	G.M	2046	4142	2595	2431	2423	2739	2729	
	S.E. Diff. Mean	219.2	244.5	272.7	117.3	206.1	242.1	222.5	
	CD at 5%	438.0	488.6	545.0	234.3	411.9	483.8	437.5	
	CV %	15.1	8.3	14.9	6.8	12.0	12.5	11.5	

Table 11b: HIGH OLEIC VARIETAL TRIAL (SB) KHARIF 2017

Kernel yield (kg/ha)

S.N.	Entry	Junagadh	Durgapura	Dharwad	Palem	Tirupati	Tindivanam	Mean	R
1	HOVT 2017-1	1585	3094	2741	1711	2248	2335	2286	1
2	HOVT 2017-2	1891	2677	2060	1550	1681	2057	1986	9
3	HOVT 2017-3	2090	3121	2155	1396	2194	1826	2130	4
4	HOVT 2017-4	2107	3408	2080	1415	1983	2343	2223	3
5	HOVT 2017-5	1277	2982	1719	1599	1619	1898	1849	11
6	HOVT 2017-6	1572	2791	1390	1445	1898	1841	1823	14
7	HOVT 2017-7	1582	3016	1540	1584	1479	1777	1830	13
8	HOVT 2017-8	1263	2883	1249	1172	1668	1854	1682	17
9	HOVT 2017-9	1676	2445	2059	1814	1915	2097	2001	8
10	HOVT 2017-10	1678	2845	1972	1585	2069	1984	2022	7
11	HOVT 2017-11	1912	2951	1752	1510	1076	1714	1819	15
12	HOVT 2017-12	1296	3117	1735	1363	2033	2597	2023	6
13	HOVT 2017-13	1213	2163	2018	1604	1469	1708	1696	16
14	HOVT 2017-14	1730	2470	1541	1647	1827	1775	1831	12
15	HOVT 2017-15	1289	2805	1769	1487	1787	2188	1887	10
16	HOVT 2017-16	1516	3058	2508	1430	1926	1740	2030	5
17	HOVT 2017-17	1263	2927	1228	1012	675	1808	1485	18
18	HOVT 2017-18	347	2879	1798	681	1296	1665	1444	19
19	HOVT 2017-19	1586	3067	2710	1760	2567	1700	2232	2
20	HOVT 2017-20	526	2744	1228	663	738	986	1147	21
21	HOVT 2017-21	500	2900	1345	691	1031	1714	1363	20
22	HOVT 2017-22	421	2608	1319	628	928	901	1134	22
	G.M	1378	2861	1814	1352	1641	1841	1815	
	S.E. Diff. Mean	148.1	171.5	200.0	104.3	147.0	157.1	157.3	
	CD at 5%	296.0	342.7	399.6	208.3	293.8	313.9	309.3	
	CV %	15.2	8.5	15.6	10.9	12.7	12.1	12.3	

Table 11c: HIGH OLEIC VARIETAL TRIAL (SB) KHARIF 2017

Ancillary traits

S.N.	Entry	Trait	Junagadh	Durgapura	Dharwad	Palem	Tirupati	Tindivanam	Mean
1	HOVT 2017-1	PS	322	319	200	285	249	273	275
		D	122	111	-	118	111	109	114
		S	64	72	71	59	68	72	68
		HKW	36	46	55	39	32	55	44
		SMK	93	92	92	86	79	97	90
		O	54	51	54	-	-	54	53
		P	28	28	26	-	-	28	28
2	HOVT 2017-2	PS	325	310	187	325	249	258	276
		D	121	112	-	119	111	110	115
		S	71	70	70	61	69	72	69
		HKW	42	44	53	41	32	57	45
		SMK	96	93	94	88	78	94	91
		O	54	50	54	-	-	55	53
		P	28	28	25	-	-	27	27
3	HOVT 2017-3	PS	325	321	197	302	233	277	276
		D	120	112	-	111	111	109	113
		S	69	70	70	60	67	66	67
		HKW	48	48	57	40	32	52	46
		SMK	98	92	96	80	80	85	88
		O	54	51	54	-	-	54	53
		P	28	29	26	-	-	27	28
4	HOVT 2017-4	PS	328	313	183	299	249	268	273
		D	120	111	-	119	111	110	114
		S	71	71	70	59	67	67	67
		HKW	41	42	54	38	33	46	42
		SMK	94	92	94	65	80	88	86
		O	54	52	55	-	-	56	54
		P	28	28	26	-	-	24	27
5	HOVT 2017-5	PS	329	310	204	284	255	275	276
		D	116	110	-	112	111	108	111
		S	70	72	72	60	69	68	68
		HKW	49	45	52	34	30	45	42
		SMK	93	90	95	66	79	93	86
		O	54	52	55	-	-	53	54
		P	27	28	24	-	-	25	26
6	HOVT 2017-5	PS	323	318	179	275	303	273	278
		D	124	114	-	118	111	109	115
		S	66	66	72	56	71	64	66
		HKW	32	32	41	26	24	33	31
		SMK	95	93	94	66	85	91	87
		O	53	51	56	-	-	55	54
		P	27	27	24	-	-	22	25
7	HOVT 2017-7	PS	333	311	194	312	243	270	277
		D	116	113	-	119	111	108	113
		S	73	72	72	56	68	64	67
		HKW	42	44	49	33	27	39	39
		SMK	95	89	94	65	78	92	86
		O	54	52	55	-	-	53	54
		P	27	27	24	-	-	24	26
8	HOVT 2017-8	PS	326	319	173	292	261	249	270
		D	124	114	-	112	111	109	114
		S	59	63	66	50	66	63	61
		HKW	31	31	41	28	25	37	32
		SMK	97	88	92	66	75	94	85
		O	52	50	54	-	-	53	52
		P	28	29	26	-	-	27	28

S.N.	Entry	Trait	Junagadh	Durgapura	Dharwad	Palem	Tirupati	Tindivanam	Mean
9	HOVT 2017-9	PS	323	326	187	306	251	236	271
		D	121	112	-	119	111	109	114
		S	68	64	71	59	69	68	66
		HKW	37	47	52	39	33	48	43
		SMK	95	93	91	73	85	93	88
		O	54	52	55	-	-	56	54
		P	28	28	25	-	-	24	26
10	HOVT 2017-10	PS	322	319	186	328	252	266	279
		D	127	112	-	118	111	110	116
		S	70	70	71	52	70	69	67
		HKW	40	47	58	38	34	57	46
		SMK	96	91	95	83	83	96	91
		O	54	52	54	-	-	56	54
		P	28	27	25	-	-	25	26
11	HOVT 2017-11	PS	329	322	168	305	227	288	273
		D	119	110	-	118	111	109	113
		S	70	68	67	56	67	62	65
		HKW	38	42	51	36	31	42	40
		SMK	92	90	97	71	81	87	86
		O	52	51	54	-	-	54	53
		P	27	28	24	-	-	24	26
12	HOVT 2017-12	PS	320	321	193	310	243	254	273
		D	125	112	-	113	111	108	114
		S	66	64	67	55	66	65	64
		HKW	31	31	41	27	25	38	32
		SMK	97	85	88	71	68	89	83
		O	51	50	55	-	-	55	53
		P	28	28	25	-	-	24	26
13	HOVT 2017-13	PS	327	315	203	277	240	252	269
		D	124	110	-	119	111	110	115
		S	65	70	69	63	67	67	67
		HKW	38	39	50	34	28	41	38
		SMK	93	91	95	75	70	95	86
		O	54	50	54	-	-	55	53
		P	28	28	24	-	-	26	27
14	HOVT 2017-14	PS	322	317	190	292	261	255	273
		D	123	109	-	120	111	110	115
		S	69	65	72	58	71	70	68
		HKW	37	35	38	25	24	38	33
		SMK	98	94	96	75	81	93	89
		O	54	52	55	-	-	54	54
		P	29	27	24	-	-	26	27
15	HOVT 2017-15	PS	319	319	180	303	230	262	269
		D	116	108	-	118	111	109	112
		S	68	72	67	50	67	70	65
		HKW	47	31	55	35	33	51	42
		SMK	95	91	89	65	78	93	85
		O	52	49	53	-	-	53	52
		P	28	29	26	-	-	28	28
16	HOVT 2017-16	PS	323	314	204	292	275	305	285
		D	117	111	-	113	111	108	112
		S	67	72	69	51	67	69	66
		HKW	33	44	57	34	31	53	42
		SMK	92	93	94	64	77	94	86
		O	54	52	55	-	-	55	54
		P	28	29	25	-	-	28	28

S.N.	Entry	Trait	Junagadh	Durgapura	Dharwad	Palem	Tirupati	Tindivanam	Mean
17	HOVT 2017-17	PS	315	318	179	273	219	270	262
		D	124	108	-	112	111	108	113
		S	70	70	71	54	67	73	67
		HKW	40	44	43	29	29	55	40
		SMK	96	91	94	84	63	89	86
		O	51	48	51	-	-	50	50
		P	27	28	24	-	-	27	27
18	HOVT 2017-18	PS	322	307	185	322	242	328	284
		D	121	107	-	119	111	109	113
		S	49	72	71	48	66	65	62
		HKW	30	31	37	26	21	39	31
		SMK	87	92	93	88	64	94	86
		O	52	50	53	-	-	54	52
		P	27	29	24	-	-	26	27
19	HOVT 2017-19	PS	327	312	198	331	240	329	289
		D	122	110	-	119	111	110	114
		S	68	74	71	56	70	73	69
		HKW	33	39	56	37	33	46	41
		SMK	91	93	95	61	80	98	86
		O	52	50	53	-	-	51	52
		P	28	30	27	-	-	28	28
20	HOVT 2017-20	PS	320	307	177	268	254	278	267
		D	121	112	-	112	111	109	113
		S	59	72	69	53	61	61	62
		HKW	28	40	32	24	18	36	30
		SMK	78	92	92	59	59	87	78
		O	52	50	54	-	-	54	53
		P	27	29	24	-	-	26	27
21	HOVT 2017-21	PS	320	316	185	323	237	267	275
		D	123	110	-	111	111	110	113
		S	61	69	72	52	66	66	64
		HKW	25	38	35	27	22	39	31
		SMK	78	90	88	55	59	94	77
		O	50	51	53	-	-	55	52
		P	27	29	26	-	-	26	27
22	HOVT 2017-22	PS	329	321	183	321	248	264	278
		D	123	110	-	118	111	109	114
		S	58	65	70	47	67	64	62
		HKW	20	31	31	22	20	38	27
		SMK	77	94	88	56	66	94	79
		O	53	51	53	-	-	55	53
		P	27	28	24	-	-	26	26
Final plant stand (000/ha)									
	GM		324	316	188	301	248	273	275
	S.E. Diff. Mean		5.4	4.6	16.0	10.0	23.1	13.3	13.7
	CD at 5%		NS	9.3	NS	20.1	NS	26.6	26.9
	CV %		2.3	2.1	12.1	4.7	13.2	6.9	7.0

Table No. 11d: Oleic,Linoleic Acid contents and O/L ration in high oil genotypes

		Junagadh			Palem			Tindivanam			Dharwad			Durgapura			Tirupati		
SN	Entry	Oleic Acid	Linoleic Acid	O/L Ratio	Oleic Acid	Linoleic Acid	O/L Ratio	Oleic Acid	Linoleic Acid	O/L Ratio	Oleic Acid	Linoleic Acid	O/L Ratio	Oleic Acid	Linoleic Acid	O/L Ratio	Oleic Acid	Linoleic Acid	O/L Ratio
1	HOVT 2017-1	80.39	2.74	29.35	80.32	3.40	23.60	81.00	2.61	34.39	80.43	4.21	19.09	62.28	16.63	3.74	81.03	3.34	24.23
2	HOVT 2017-2	80.31	2.56	31.34	79.37	3.76	21.09	80.08	2.99	28.78	79.57	3.40	23.43	63.20	17.02	3.71	80.52	2.70	29.78
3	HOVT 2017-3	79.85	2.55	31.26	81.45	3.05	26.71	81.10	2.47	34.65	79.71	3.45	23.08	62.79	17.95	3.50	80.40	3.20	25.14
4	HOVT 2017-4	80.33	2.63	30.53	81.65	2.26	36.13	81.16	2.42	33.71	78.32	3.74	20.95	60.97	19.23	3.17	80.95	2.69	30.09
5	HOVT 2017-5	77.93	4.57	17.07	81.28	3.43	23.68	81.29	2.82	30.21	81.61	3.80	21.47	61.12	18.96	3.22	82.12	2.99	27.45
6	HOVT 2017-6	78.34	2.96	26.45	81.84	1.91	42.96	80.92	1.89	42.82	79.66	3.22	24.77	78.24	3.99	19.61	81.71	2.12	38.52
7	HOVT 2017-7	80.44	2.54	31.62	80.28	3.38	23.77	81.36	2.63	33.77	79.41	4.05	19.61	79.01	3.54	22.33	81.18	3.12	26.01
8	HOVT 2017-8	77.37	3.56	21.76	81.17	2.36	34.45	80.80	2.50	32.40	80.27	2.63	30.50	79.73	3.11	25.64	81.52	2.11	38.69
9	HOVT 2017-9	80.58	2.73	29.47	80.22	3.07	26.15	80.67	2.64	31.42	80.33	3.38	23.75	78.09	4.88	16.00	80.72	3.17	25.45
10	HOVT 2017-10	79.82	2.50	31.93	81.57	1.92	42.46	80.95	2.27	36.52	80.30	3.28	24.46	80.41	2.39	33.64	82.19	3.12	26.36
11	HOVT 2017-11	78.22	3.52	22.23	79.25	3.87	20.48	79.94	3.36	24.37	78.95	4.58	17.25	79.73	2.62	30.47	82.10	2.03	40.45
12	HOVT 2017-12	77.56	2.78	27.93	78.61	3.45	22.81	78.93	2.78	30.12	78.38	3.31	23.67	78.69	2.80	28.10	80.63	2.75	29.37
13	HOVT 2017-13	80.06	2.52	31.74	80.67	3.37	23.96	81.39	2.59	34.54	80.11	3.06	26.17	55.92	23.41	2.39	80.49	2.42	33.27
14	HOVT 2017-14	80.29	2.83	28.39	79.96	3.66	21.88	80.32	3.00	28.08	80.02	3.05	26.21	56.59	22.91	2.47	79.29	3.47	22.86
15	HOVT 2017-15	81.53	2.49	32.69	67.28	13.93	4.83	73.00	8.40	16.12	57.44	22.96	2.50	59.04	20.16	2.93	75.40	6.63	11.37
16	HOVT 2017-16	80.83	3.60	22.44	72.28	11.60	6.23	74.05	9.22	8.65	53.77	25.36	2.12	54.90	23.88	2.30	71.57	10.77	6.64
17	HOVT 2017-17	78.45	3.05	25.74	37.47	38.56	0.97	38.14	38.96	0.98	39.80	38.13	1.04	52.71	26.84	1.96	61.64	17.40	3.54
18	HOVT 2017-18	53.58	24.83	2.16	37.06	38.31	0.97	44.82	31.79	1.52	37.05	37.90	0.98	51.72	26.67	1.94	53.62	25.16	2.13
19	HOVT 2017-19	73.46	7.08	10.38	70.31	10.31	6.82	71.93	8.65	8.68	37.32	40.38	0.92	78.05	3.71	21.04	57.27	22.04	2.60
20	HOVT 2017-20	70.29	10.01	7.02	66.65	13.32	5.01	71.06	9.56	8.99	36.54	38.88	0.94	79.86	2.59	30.88	62.04	17.16	3.61
21	HOVT 2017-21	79.88	2.55	31.34	53.85	24.18	2.23	63.66	15.59	6.36	55.20	23.68	2.33	80.41	2.72	29.53	73.52	7.19	10.23
22	HOVT 2017-22	73.44	7.03	10.45	53.37	24.77	2.15	62.17	17.33	4.67	55.28	24.09	2.30	79.77	3.73	21.41	75.55	6.54	11.56

Special Trial on Drought Tolerance and Water Use Efficiency through C3-CAM Transition

In the Microbiology section of ICAR-DGR, Junagadh, variants were isolated while working with endo-bacterial experiments with the improved and popular Spanish Bunch groundnut TG 37A. These are natural selections from TG 37A. These selections are found to be drought tolerant, water use efficient, early maturing and have the potential to reduce irrigation water. Hence it has been proposed to test these materials at target locations for their performances. The materials were coded and the checks used were the parental source, TG 37A and a drought tolerant variety ICGV 91114 and conducted at DGR-RRS, Anantapur (AP); Hiriiyur (Karnataka), Tindivanam (TN) and Raichur (Karnataka) where occurrence of drought is frequent.

The centre-wise data/results are presented in **Tables 12a through 12c**. Perusal of the data clearly indicates that the plant population was very low at DGR-RRS, Anantapur (AP); Hiriiyur (Karnataka) and sub-optimal at Tindivanam. During kharif 2016 also at Anantapur, Hiriyur and Tindivanam the population was very low. This may be due to the lack of seed viability and lack of adequate irrigation at the time of sowing and germination which resulted in poor germination. Hence comparison of genotypes was difficult and unrealistic.

At three out of four locations (except for Raichur) there were no significant differences between the check varieties and test materials. At Raichur the yield levels were very high considering the kharif rainfed situation. Looking to the very low plant stand of the checks and test genotypes, the trial is vitiated at this stage (IVT-I). As the trial involved genotypes, irrigation (time of irrigation-5), and interculture operations (four levels), the same may be conducted at target locations like Anatapur and Chitradurga and validated.

Table 12a:SPECIAL TRIAL ON DROUGHT TOLERANT AND WUE MODULATION OF CAM TRANSITION KHARIF 2017

Pod yield (kg/ha)

S.N.	Entry	DGR, RRS-Anantpur	Hiriyur	Tindivanam	Raichur	Mean	R
1	DTWUE- 2017-1	1092	797	1860	3441	1797	8
2	DTWUE- 2017-2	1149	676	1865	3170	1715	9
3	DTWUE- 2017-3	1067	661	3081	3021	1958	3
4	DTWUE- 2017-4	1104	617	2586	3337	1911	4
5	DTWUE- 2017-5	1171	807	3223	3410	2153	1
6	DTWUE- 2017-6	1412	740	2694	2753	1900	5
7	DTWUE- 2017-7	1015	828	2200	3215	1815	7
8	DTWUE- 2017-8	1206	661	2908	3191	1991	2
9	DTWUE- 2017-9	1223	848	2715	2570	1839	6
	G.M	1160	737	2570	3123	1898	
	S.E. Diff. Mean	345.8	93.1	210.3	331.3	265.6	
	CD at 5%	NS	NS	434.1	NS	527.2	
	CV %	42.2	17.9	11.6	15.0	19.8	

Table 12b:SPECIAL TRIAL ON DROUGHT TOLERANT AND WUE MODULATION OF CAM TRANSITION KHARIF 2017

Kernel yield (kg/ha)

S.N.	Entry	DGR, RRS-Anantpur	Hiriyur	Tindivanam	Raichur	Mean	R
1	DTWUE- 2017-1	728	571	1342	2421	1266	7
2	DTWUE- 2017-2	761	485	1379	2124	1187	9
3	DTWUE- 2017-3	649	461	2247	2116	1368	3
4	DTWUE- 2017-4	696	459	1884	2326	1341	4
5	DTWUE- 2017-5	747	570	2372	2438	1532	1
6	DTWUE- 2017-6	923	523	1941	1814	1300	6
7	DTWUE- 2017-7	683	590	1557	2163	1248	8
8	DTWUE- 2017-8	760	484	2133	2119	1374	2
9	DTWUE- 2017-9	900	621	1987	1752	1315	5
	G.M	761	529	1871	2141	1326	
	S.E. Diff. Mean	243.4	74.6	155.2	235.0	189.8	
	CD at 5%	NS	NS	320.4	NS	376.8	
	CV %	45.3	19.9	11.7	15.5	20.3	

Table 12c: SPECIAL TRIAL ON DROUGHT TOLERANCE AND WATER USE EFFICIENCY THROUGH C3- CAM TRANSITION KHARIF 2017

			Ancillary traits				
S.N.	Entry	Trait	DGR, RRS-Anantpur	Hiriyur	Tindivanam	Raichur	Mean
1	DTWUE- 2017-1	PS	91	96	218	339	186
		D	113	118	105	103	110
		S	65	72	72	70	70
		HKW	32	38	52	38	40
		SMK	70	85	90	94	85
		O	-	-	49	47	48
		P	-	-	28	27	28
2	DTWUE- 2017-2	PS	103	67	213	336	180
		D	113	118	105	102	109
		S	66	72	74	67	70
		HKW	30	37	51	37	39
		SMK	63	87	92	95	84
		O	-	-	48	48	48
		P	-	-	29	27	28
3	DTWUE- 2017-3	PS	72	73	210	338	173
		D	117	119	105	99	110
		S	61	70	73	70	68
		HKW	29	36	51	36	38
		SMK	54	85	90	93	81
		O	-	-	49	48	49
		P	-	-	28	27	28
4	DTWUE- 2017-4	PS	92	81	216	335	181
		D	113	122	105	100	110
		S	63	74	73	70	70
		HKW	32	38	60	40	42
		SMK	66	84	85	95	82
		O	-	-	49	48	49
		P	-	-	28	27	28
5	DTWUE- 2017-5	PS	92	88	208	337	181
		D	115	117	105	102	110
		S	63	70	74	72	70
		HKW	30	40	57	41	42
		SMK	62	87	86	93	82
		O	-	-	48	48	48
		P	-	-	28	27	28
6	DTWUE- 2017-6	PS	115	103	208	336	191
		D	115	120	105	110	112
		S	65	71	72	66	68
		HKW	30	38	53	38	40
		SMK	68	86	92	92	84
		O	-	-	48	47	48
		P	-	-	29	27	28
7	DTWUE- 2017-7	PS	80	89	215	337	180
		D	117	120	105	106	112
		S	67	71	71	67	69
		HKW	31	37	53	38	40
		SMK	72	83	87	90	83
		O	-	-	49	47	48
		P	-	-	28	26	27
8	DTWUE- 2017-8	PS	100	82	205	337	181
		D	113	118	105	103	110
		S	63	74	73	67	69
		HKW	30	39	52	36	39
		SMK	73	82	86	93	83
		O	-	-	49	48	49
		P	-	-	29	27	28
9	DTWUE- 2017-9	PS	83	132	213	332	190
		D	113	109	105	103	108
		S	73	73	73	68	72
		HKW	31	34	37	34	34
		SMK	85	82	94	91	88
		O	-	-	47	50	49
		P	-	-	29	26	28
Final plant stand (000/ha)							
	GM		92	90	212	336	183
	S.E. Diff. Mean		20.7	8.9	5.7	3.2	114.7
	CD at 5%		NS	18.4	NS	NS	23.3
	CV %		31.9	14.0	3.8	1.3	9.1

Initial Varietal Trial (IVT stage I & II- Pooled)

Habit Group: Spanish Bunch

In this trial there were 13 entries. The check varieties used were TAG 24 (ZC) and TG 37A (ZC) in **Zone I**; TG 37A (ZC), GG 7 (ZC), SG 99 (ZC), JL 501 (ZC) and GJG 9 (ZC) in **Zone II**; TAG 24 (ZC), AK 159 (ZC), GG 8 (ZC) and JL 776 (ZC) in **Zone III**; OG 52-1 (ZC), Girnar 3 (ZC), GPBD 5 (ZC) and R 2001-2 (ZC) in **Zone IV**; and R 2001-2 (ZC), R 2001-3 (ZC), and GPBD 4 (ZC) in **Zone V**. The trial was allotted to 25 locations/centres and all of them have conducted the trial for over two years and reported the data except for Kadiri centre. The zone-wise results are presented below (**Tables 13a through 17c**). Whenever, the coefficient of variation exceeded 25% in a particular location over two years or the mean yield of the location fell below 1462 kg/ha (triennial national average of *kharif season*, 2015 to 2017), the data could not be included in the pooled analyses.

ZONE I

There were three locations in this zone namely Mainpuri (Uttar Pradesh), Durgapura (Rajasthan) and Ludhiana (Punjab). The trials have been conducted over two years by all the three centres. The centre-wise results are presented below (**Tables 13 through 13c**). The Coefficient of variation (CV %) was about 12% both for pod and kernel yield and the CV% was well within limits at all three centres. The mean pod yield (1360 kg/ha) of the location fell below 1462 kg/ha (triennial national average of *kharif season*, 2015 to 2017) and hence the data of this centre was not included in the pooled analysis. The centre-wise results are presented below.

Mainpuri

In this location, the mean pod and kernel yield of the genotypes over two years were 1360 kg/ha and 955 kg/ha respectively. Over the two test years the zonal check, TAG 24 was the best for both pod (1424 kg/ha) and kernel (1017 kg/ha) yield. Among the test genotypes, Three genotypes, CSMG 2010-28 (2002 kg of pod and 1422 kg of kernel per ha); ICGV 07041 (2002 kg of pod and 1422 kg of kernel per ha) and ICGV 07214 (1725 kg of pod and 1233 kg of kernel per ha) recorded significant higher pod and kernel yield respectively over the best check, TG 37A (ZC).

Durgapura

The mean pod (3642 kg/ha) and kernel (2496 kg/ha) yield levels over the two test years in this location were very high. Over the two test years, the zonal check variety, TAG 24 recorded a high pod and kernel yield of 4126 kg/ha and 2971 kg/ha respectively. Among the test genotypes, GNH 804 was the best and recorded numerically higher pod (4510 kg/ha) and kernel yield (3002 kg/ha) over the best check, TAG 24 (ZC) but remained at par for both pod and kernel yield.

Ludhiana

The mean pod (2521 kg/ha) and kernel (1702 kg/ha) yield levels over the two test years in this location were high. Over the two test years, the zonal check variety, TAG 24 recorded a high pod yield of 2726 kg/ha and kernel yield of 1847 kg/ha respectively. Four genotypes, CSMG 2010-28 (3554 kg of pod and 2377 kg of kernel per ha); Dh 256 (3236 kg of pod and 2314 kg of kernel per ha), J 92 (3189 kg of pod and 2119 kg of kernel per ha) and ICGV 07214 (3048

kg of pod and 2209 kg of kernel per ha) in order of merit recorded significant higher pod and kernel yield respectively over the best check, TAG 24 (ZC).

Zonal Mean performances

The mean pod (3082 kg/ha) and kernel (2099 kg/ha) yield levels over the two test years and two locations in this zone were high. Across two test locations and over two years, TAG 24 (ZC) was the best check for pod and kernel yield (3426 and 2409 kg/ha) respectively. None of the test genotypes could significantly surpass the yield levels of the best check, TAG 24 (ZC) over three locations and two years, although three genotypes Dh 256, CSMG 2010-18 and ICGV 07214 recorded numerically higher values over those of TAG 24. Among these three test genotypes, Dh 256 was the best for pod (3679 kg/ha) and kernel yield (2552 kg/ha).

Ancillary Observation

The plant stand was low at Ludhiana during both the years. The test genotypes and check varieties matured around 110 days. Shelling outturn was high (70%) in TG 81, Dh 256, ICGV 07214, and TAG 24. Seed size was small (34g/100 kernel) in Dh 243 and medium bold (51 g/100 kernel) in J 93. Oil content ranged from 49%-53%, highest ICGV 07041. Protein content was high (29%) in all most the genotypes **(Table 13c).**

Conclusion

Since none of the test genotypes could significantly surpass the yield levels of the best check, TAG 24 (ZC) over two locations and two years, none deserves promotion to Advanced Varietal Trial (AVT).

ZONE II

There were four test locations in this zone. Two centres in Gujarat (Junagadh, Amreli,) and two in southern Rajasthan (Udaipur, Pratapgarh). The centre-wise results are presented below (**Tables 14a through 14c**). The Coefficient of variation (CV %) was about 16% for pod and kernel yield and it was well within limits at all the centres. The centre-wise results are presented below.

Junagadh

Over two years, the pod and kernel yields in this centre were high (2553 kg/ha and 1772 kg/ha). Over two years among the five check varieties used, the zonal check variety, SG 99 was the best for both pod (2887 kg/ha) and kernel yield (2015 n kg/ha). Among the 13 test genotypes, JL 1085 was the best for pod (4126 kg/ha) and kernel yield (2830 kg/ha) but remained at par with those of the best check JL 501.

Amreli

Over two years, the pod and kernel yields in this centre were high (2226 kg/ha of pod and 1412 kg/ha of kernel). Over two years among the five check varieties used, the zonal check variety, GJG 9 was the best for both pod (2605 kg/ha) and kernel yield (1770 kg/ha) and none of the test genotypes exhibited significant superior yields over this best check. However, among the test genotypes, ICGV 07041 was the best for pod (3027 kg/ha) and kernel (1975 kg/ha) yield.

Udaipur

In this location, over two years, the mean pod (3498 kg/ha) and kernel yield (2412 kg/ha) were high. Over two years among the five check varieties used, the zonal check variety, SG 99 was the best for both pod (3988 kg/ha) and kernel yield (2787 kg/ha). None of the test genotypes

exhibited significant superior yield over this best check. However, among the test genotype, GNH 804 was the best for pod (4109 kg/ha) and kernel (2963 kg/ha) yield.

Amreli

In this location, over two years, the mean pod (1890 kg/ha) and kernel yield (1219 kg/ha) were high. Over two years among the five check varieties used, the zonal check variety, JL 501 was the best for both pod (2112 kg/ha) and kernel yield (1450 kg/ha). None of the test genotypes exhibited significant superior yield over this best check. However, among the test genotype, ICGV 07214 was the best for pod (2627 kg/ha) and for kernel yield, Dh 256 was the best (1743 kg/ha).

Zonal Mean Performances

The mean pod (2542 kg/ha) and kernel (1704 kg/ha) yield levels over the two test years in this zone were high. Across the four locations and over two years, zonal check variety, SG 99 was the best for pod (2857 kg/ha) and for kernel yield, SG 99 was the best (1947 kg/ha) yield. None of the test genotypes exhibited significant superior yields over this best check. However, among the test genotype, ICGV 07041 was the best for pod (3056 kg/ha) and kernel (2054 kg/ha) yield.

Ancillary Observation

Plant population was very low in Amreli. The test genotypes and check varieties matured around 105 days. Shelling outturn was low (63%) in J 92 and whereas it was high (72%) in TCGS 1616. Seed Weight was low (29 g) in RHRG 1344 and high (42 g) in GG7 and GJG 9 (ZC). Oil content was in the range of 48% to 51%, highest being in ICG 07041. Protein content ranged from 26% to 29% highest being TCGS 1616.

Conclusion

Over two years and four locations, none of the test genotype exhibited significant yield superiority over those of the best zonal check variety, SG 99 and hence none deserves promotion to AVT.

Zone III

The trial was allotted to six locations and all of them conducted the trial and reported the data. There were four checks, TAG 24 (ZC), AK 159 (ZC), GG 8 (ZC) and JL 776 (ZC). The Coefficient of variation (CV%) was about 13% both for pod and kernel yield The centre-wise results are presented below. The centre-wise results are presented below **(Tables 15a through 15c)**.

Gwalior

In this location, over two years, the mean pod (2235 kg/ha) and kernel yield (1503 kg/ha) were high. The zonal check variety, AK 159 was the best with a high pod (2431 kg/ha) and kernel yield (1634 kg/ha). None of the test entries could significantly surpass the yield levels of this check variety. Among the test genotypes, CSMG 2010-28 was the best for pod (2637 kg/ha) and kernel (1808 kg/ha) yields.

Akola

In this location, over two years, the mean pod (2068 kg/ha) and kernel yield (1379 kg/ha) were high. Over two years among the zonal check variety, AK 159 was the best with a very high pod (2333 kg/ha) and kernel yield (1642 kg/ha). None of the test entries could significantly surpass

the yield levels of this check variety. Among the test genotypes, NRCG CS 435 was the best for pod (2586 kg/ha) and kernel (1664 kg/ha) yields.

Jalgaon
In this centre, over two years, the mean pod (2080 kg/ha) and kernel yield (1418 kg/ha) were high. The zonal check variety, JL 776 was the best for pod (2939 kg/ha) and kernel yield (2102 kg/ha) and surpassed the yield levels of all the entries for pod and kernel yield. Among the entries Dh 256 was the best for pod (2922 kg/ha) and kernel (2092 kg/ha) yields over this best check variety.

Latur
In this centre, over two years, the mean pod (1872 kg/ha) and kernel yield (1264 kg/ha) were high. The zonal check variety, JL 776 was the best for pod (2931 kg/ha) and kernel yield (1977 kg/ha). None of the test entries could significantly surpass the yield levels of this check variety. Among the entries Dh 256 was the best for pod (2937 kg/ha) and kernel (2006 kg/ha) yields.

Raigarh
In this centre, over two years, the mean pod (2558 kg/ha) and kernel yield (1747 kg/ha) were high. The zonal check variety, JL 776 was the best for pod (3383 kg/ha) and kernel yield (2424 kg/ha). None of the test entries could significantly surpass the pod yield levels of this check variety. However among the entries Dh 256 although was numerically superior (3867 kg/ha) for pod yield, but it recorded significant superior kernel yield (2862 kg/ha) over the best check.

Shirgaon
Over two years in this centre, the mean pod (3144 kg/ha) and kernel yield (2210 kg/ha) were very high. The zonal check variety, JL 776 was the best for pod (3639 kg/ha) and kernel yield (2657 kg/ha). One the test genotype, J 93 recorded significant superior pod (4419 kg/ha) and kernel (3134 kg/ha) yields over the best zonal check variety, JL 776.

Zonal Mean Performances
The mean pod (2326 kg/ha) and kernel (1587 kg/ha) yield levels over the two test years in this zone were very high. Across the five locations, and over two years, JL 776 (ZC) was the best check for pod (2867 kg/ha) as well as kernel yield (2016 kg/ha). None of the test entries could significantly surpass the yield levels of this check variety. Among the test genotypes, Dh 256 was the best for pod (2961 kg/ha) and kernel (2087 kg/ha) yields.

Ancillary Observation
The plant population was suboptimal at Akola, low at Gwalior. The test genotypes and check varieties matured around 110 days. Shelling out-turn ranged from 65% in RHRG 1344 to 70% in Dh 256. The 100-seed weight was small (33 g) in RHRG 1344 and medium (46 g) in J 93. Oil content of the genotypes was high in this centre and it was 52% in J 92, ICGV 07041, and AK 159. Protein content was between 26% to 28% in these genotypes.

Conclusion
Over two years and five locations, none of the test genotypes exhibited significant yield superiority over those of the best zonal check variety, JL 776 and hence none deserves promotion to AVT.

Zone IV

There were four centres in this zone. Imphal (Manipur), Bhubaneswar (Odisha), Kanke (Jharkhand) and Mohanpur (West Bengal). All the centres have conducted the trial and reported the data. The check varieties used were OG 52-1 (ZC), Girnar-3 (ZC), GPBD-5 (ZC) and R 2001-2 (ZC). The Coefficient of variation (CV%) was about 14% both for pod and kernel yield and well within the limits across the locations. The centre-wise results are presented below (**Tables 16a through 16c**).

Bhubaneswar
Over two years, in this centre, the mean yields of this centre was moderate (1984 kg/ha of pod and 1301 kg/ha of kernel). The zonal check variety, GPBD 5 was the best for pod (1976 kg/ha) and for kernel yield (1283 kg/ha) yield. Four genotypes could significantly surpass the pod yield of this check variety for both pod kernel yield. Among the four, ICGV 07041 was the best for pod (2512 kg/ha) and kernel yield (1748 kg/ha).

Imphal
Over two years, in this centre, the mean yields of this centre was moderate (2428 kg/ha of pod and 1759 kg/ha of kernel). The zonal check variety, R 2001-2 was the best for pod (3062 kg/ha) and for kernel yield (2177 kg/ha) yield. None of the genotypes could significantly surpass the pod yield of this check variety. Among the test genotypes, GNH 804 was the best for pod (3414 kg/ha) and kernel yield (2461 kg/ha).

Kanke
In this location, over two years, the mean pod (2293 kg/ha) and kernel yield (1474 kg/ha) were moderate. The zonal check variety, OG 52-1 was the best check of this centre over two years for pod (2607 kg/ha) and kernel (1847 kg/ha) yield. None of the genotypes could significantly surpass the pod yield of this check variety. Among the test genotypes, Dh 256 was the best for pod (2651 kg/ha) and for kernel yield Dh 243 was the best (1817 kg/ha).

Mohanpur
Over two years, the mean pod (2250 kg/ha) and kernel (1573 kg/ha) yield of this centre were high. However, over two years, there were no significant differences between the test genotypes and check varieties both for pod and kernel yield. Under these conditions the zonal check variety, R 2001-2 was the best check of this centre over two years for pod (2486 kg/ha) and kernel (1743 kg/ha) yield. Among the test genotypes, GNH 84 was the best for pod (3844 kg/ha) and kernel (2724 kg/ha) yields.

Zonal Mean Performances
Across the three test locations and over two years, the mean pod (2238 kg/ha) and kernel yield (1464 kg/ha) were moderate. The zonal check variety, R 2001-2 was the best of this zone for pod (2463 kg/ha) and for kernel (1716 kg/ha) yield. Among the test genotypes, GNH 84 significantly out yielded the best check for pod (2475 kg/ha) while for kernel (1995 kg/ha) it remained at par with the check but recorded 10% higher kernel yield over the best check.

Ancillary observation
The plant population was sub-optimal at most centres. The test genotypes and checks matured around 115 days. The shelling outturn ranged from 66% (GNH 804) to 70% (TCG 1616, Dh

243).The seed size ranged between 35 g (RHRG 1344) to 51g (J 93, GNH 84) per 100 kernels. Oil content was between 49% to 52%. Protein content was between 25% to 27%.

Conclusion
Over two years and three locations, the test genotype **GNH 84** significantly out yielded the best check for pod (2475 kg/ha) and recorded 10% higher kernel yield (1995 kg/ha) over the best check is **promoted to AVT.**

ZONE V

In this zone the trial was allotted to eight centres and all of them have reported the data except for Kadiri. The four check varieties used were: R 2001-2 (ZC), GPBD 4 (ZC), and R 2001-3 (ZC). The Coefficient of variation (CV%) was about 15% both for pod and kernel yield. Whenever, the coefficient of variation exceeded 25% in any particular location or the mean yield of the location fell below 1462 kg/ha (triennial national average of *kharif* season, 2015 to 2017) the data could not be included in the analyses. The centre-wise results are presented below (**Tables 17a through 17c**).

Dharwad
Over two years the mean pod (2632 kg/ha) and kernel (1910 kg/ha) yield levels in this location were very high. The zonal check variety, R 2001-2 was the best among the four check varieties for pod (3092 kg/ha) and for kernel yield, GPBD 4 was the best (2350 kg/ha) for kernel. None of the test genotypes could significantly surpass the pod and kernel yield of these check varieties. Among the test genotypes, Dh 256 was the best for pod (3174 kg/ha) and kernel yield (2218 kg/ha).

Raichur
Over two years the mean pod (3308 kg/ha) and kernel (2191 kg/ha) yield levels in this location were high. The zonal check variety, R 2001-2 was the best check of this centre for pod (4516 kg/ha) and kernel (2923 kg/ha) yield. One test genotype, ICGV 07214 recorded numerically higher values for pod (5214 kg/ha) but for kernel yield this genotype significantly recorded higher values (3486 kg/ha) over the best check variety.

Hiriyur
The mean pod and kernel yield levels in this location over two years were moderate (2441 kg/ha and 1778 kg/ha respectively). Over two years, there were no significant differences between the test genotypes and check varieties both for pod and kernel yield. Under these conditions the zonal check variety, R 2001-3 was the best check of this centre for pod (3548 kg/ha) and kernel (2661 kg/ha) yield. Among the test genotypes, Dh 256 was the best for pod (2908 kg/ha) and kernel (2171 kg/ha) yields.

Tirupati
The mean pod and kernel yield levels in this location over two years were high (2478 kg/ha and 1623 kg/ha respectively). The zonal check variety, R 2001-2 was the best for pod (2626 kg/ha) and kernel yield (1715 kg/ha) yield. Among the test genotypes, Dh 256 significantly surpassed the best check for pod (3772 kg/ha) and kernel yield (2546 kg/ha).

Jagtial
The mean pod and kernel yield levels in this location over two years were high (2746 kg/ha and 1669 kg/ha respectively). The zonal check variety, R 2001-2 was the best for pod (3626

kg/ha) and kernel yield (2133 kg/ha) yield. Among the test genotypes, two Dh 256 (4830 kg/ha of pod; 2546 kg/ha of kernel) and ICGV 07041 (4608 kg/ha of pod; 2905 kg/ha of kernel) significantly surpassed the best check for both pod and kernel yield.

Vriddhachalam

The mean pod and kernel yield levels in this location over two years were moderate (1963 kg/ha and 1235 kg/ha respectively). The zonal check variety, R 2001-2 was the best for pod (2396 kg/ha) and kernel yield (1567 kg/ha). Among the test genotypes, two Dh 256 (3043 kg/ha of pod; 1957 kg/ha of kernel) and ICGV 07041 (2990 kg/ha of pod; 1961 kg/ha of kernel) significantly surpassed the best check for both pod and kernel yield.

Tindivanam

Over two years, the mean pod and kernel yield levels in this location were 2277 kg/ha and 1589 kg/ha respectively. The zonal check variety, R 2001-3 was the best for pod (2315 kg/ha) and kernel (1614 kg/ha) yield. Among the test genotypes, four Dh 256 (3226 kg/ha of pod; 1957 kg/ha of kernel); RHRG 1344 (2792 kg/ha of pod; 1963 kg/ha of kernel); GNH 84 (2755 kg/ha of pod; 1924 kg/ha of kernel) and TCGS 1616 (2633 kg/ha of pod; 1945 kg/ha of kernel) significantly surpassed the best check for both pod and kernel yield.

Zonal Mean Performances

The mean pod and kernel yield across seven locations and over two years high (2549 kg/ha and 1714 kg/ha respectively). The check variety, R 2001-2 was the best check of this zone for pod (3079 kg/ha) and kernel yield (2058 kg/ha). One test genotype, Dh 256 recorded significantly recorded higher values for pod (5214 kg/ha) but for kernel yield this genotype (2394 kg/ha) remained at par with the best check but exhibited 10% higher kernels over those of the best check.

Ancillary Observation

The test genotypes and check varieties matured around 115 days. The shelling outturn was low (66%) in Dh 243 and high (72%) in TCGS 1616. Seed size was small (31 g/100-kernel) in RHRG 1344 and medium (45 g/100-kernel) in GNH 84. Oil content was in the range of 48%-51% and protein content was in the range of 25%-28% . The protein content was between 25-28%.

Conclusion

Over two years and seven locations, the test genotype, **Dh 256** significantly out yielded the best check for pod (5214 kg/ha) kg/ha) and recorded 10% higher kernel yield (2394 kg/ha) over the best check is **promoted to AVT.**

ZONE I

Table 13a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Pod yield (kg/ha)

S.N.	Entry	Mainpuri*			Durgapura			Ludhiana			Pooled mean	R
		2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	(2 ctrs)	
1	ISK I 2016-1	1528	1250	1389	3201	4358	3779	1666	3160	2413	3096	7
	RHRG 1344											
2	ISK I 2016-2	1169	903	1036	3476	4109	3792	1774	1795	1784	2788	11
	J 93											
3	ISK I 2016-3	1227	857	1042	2553	3814	3183	932	3689	2310	2747	12
	NRCG CS-435											
4	ISK I 2016-4	1042	1134	1088	2756	4149	3453	2590	3788	3189	3321	6
	J 92											
5	ISK I 2016-5	1968	2037	2002	3554	3883	3718	2578	4530	3554	3636	2
	CSMG 2010-28											
6	ISK I 2016-6	2084	2153	2118	3296	3721	3509	3078	1773	2425	2967	8
	ICGV 07041											
7	ISK I 2016-7	949	1389	1169	2228	3843	3035	1210	3133	2172	2603	14
	TG 81											
8	ISK I 2016-8	1100	1111	1105	2697	3785	3241	1719	3098	2409	2825	9
	TCGS 1616											
9	ISK I 2016-9	1563	1389	1476	4961	4060	4510	2084	3376	2730	3620	3
	GNH 804											
10	ISK I 2016-10	926	1343	1134	3597	3090	3344	1838	1674	1756	2550	15
	K 1789											
11	ISK I 2016-13	984	1273	1129	3101	3009	3055	448	4608	2528	2792	10
	Dh 243											
12	ISK I 2016-14	1621	1343	1482	4132	4112	4122	3477	2994	3236	3679	1
	Dh 256											
13	ISK I 2016-15	1736	1713	1725	3858	4121	3989	1635	4460	3048	3518	4
	ICGV 07214											
14	ISK I 2016-27	1551	1296	1424	3703	4549	4126	2954	2499	2726	3426	5
	TAG 24 (ZC)											
15	ISK I 2016-28	1007	1158	1082	2994	4560	3777	927	2140	1533	2655	13
	TG 37A (ZC)											
	GM	1363	1357	1360	3340	3944	3642	1927	3114	2521	3082	
	S.E. Diff. Mean	69.9	38.6	56.4	283.8	361.4	324.9	179.3	219.6	200.4	269.9	
	CD at 5%	141.1	77.8	112.8	572.7	729.4	649.5	361.9	443.1	400.6	529.1	
	CV%	7.3	4.0	5.9	12.0	13.0	12.6	13.2	10.0	11.3	12.4	

Table 13b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Kernel yield (kg/ha)

S.N.	Entry	Mainpuri*			Durgapura			Ludhiana			Pooled mean	R
		2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	(2 ctrs)	
1	ISK I 2016-1	1070	887	978	2306	2889	2597	1131	2184	1657	2127	7
	RHRG 1344											
2	ISK I 2016-2	771	632	701	2444	2697	2571	1049	1077	1063	1817	14
	J 93											
3	ISK I 2016-3	846	600	723	1823	2437	2130	597	2470	1534	1832	11
	NRCG CS-435											
4	ISK I 2016-4	708	784	746	1938	2777	2357	1668	2569	2119	2238	6
	J 92											
5	ISK I 2016-5	1378	1466	1422	2641	2712	2676	1731	3023	2377	2527	2
	CSMG 2010-28											
6	ISK I 2016-6	1478	1549	1514	2211	2520	2365	2185	1271	1728	2047	8
	ICGV 07041											
7	ISK I 2016-7	666	986	826	1702	2679	2190	814	2103	1459	1824	13
	TG 81											
8	ISK I 2016-8	781	790	785	1829	2381	2105	1206	2111	1658	1882	10
	TCGS 1616											
9	ISK I 2016-9	1093	1000	1046	3393	2611	3002	1391	2252	1821	2412	4
	GNH 804											
10	ISK I 2016-10	611	926	769	2387	1955	2171	1180	1084	1132	1651	15
	K 1789											
11	ISK I 2016-13	680	904	792	2064	2054	2059	288	2896	1592	1825	12
	Dh 243											
12	ISK I 2016-14	1086	926	1006	2832	2746	2789	2491	2137	2314	2552	1
	Dh 256											
13	ISK I 2016-15	1232	1234	1233	2711	2685	2698	1185	3233	2209	2453	3
	ICGV 07214											
14	ISK I 2016-27	1102	933	1017	2606	3337	2971	1988	1706	1847	2409	5
	TAG 24 (ZC)											
15	ISK I 2016-28	725	810	768	2136	3397	2766	618	1423	1020	1893	9
	TG 37A (ZC)											
	GM	948	962	955	2335	2658	2496	1301	2102	1702	2099	
	S.E. Diff. Mean	47.0	28.0	38.7	199.7	241.5	221.6	124.4	154.9	140.5	185.5	
	CD at 5%	94.8	56.5	77.3	403.0	487.5	442.9	251.0	312.6	280.8	363.6	
	CV%	7.0	4.1	5.7	12.1	12.9	12.6	13.5	10.4	11.7	12.5	

* The centre not included in the pooled analysis because its pod yield was below triennial national average (1462 kg/ha).

Table 13c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Ancillary traits

S.N.	Entry	Trait	Mainpuri*			Durgapura			Ludhiana			Pooled mean
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	(2 ctrs)
1	ISK I 2016-1	PS	285	319	302	321	331	326	196	269	233	279
	RHRG 1344	D	115	114	115	107	106	107	113	115	114	110
		S	70	71	71	72	66	69	68	69	69	69
		HKW	29	29	29	31	33	32	36	49	42	37
		SMK	89	94	92	80	91	86	88	86	87	86
		O	49	49	49	48	49	49	52	52	52	50
		P	27	27	27	30	30	30	27	29	28	29
2	ISK I 2016-2	PS	278	303	291	313	327	320	194	275	234	277
	J 93	D	105	106	106	109	110	110	108	110	109	109
		S	66	70	68	70	66	68	59	60	60	64
		HKW	37	38	38	56	46	51	42	50	46	49
		SMK	85	89	87	86	89	88	85	85	85	86
		O	49	48	49	48	48	48	50	50	50	49
		P	26	27	27	30	30	30	29	29	29	29
3	ISK I 2016-3	PS	271	309	290	310	319	314	96	303	200	257
	NRCG CS-435	D	100	100	100	108	107	108	103	101	102	105
		S	69	70	69	71	64	68	64	67	65	67
		HKW	35	37	36	53	44	49	39	52	45	47
		SMK	88	95	92	94	90	92	83	85	84	88
		O	49	49	49	49	49	49	49	51	50	49
		P	27	28	27	31	30	30	30	28	29	30
4	ISK I 2016-4	PS	285	308	296	318	320	319	182	249	215	267
	J 92	D	100	102	101	107	108	108	104	105	104	106
		S	68	69	69	70	67	69	64	68	66	67
		HKW	35	39	37	52	42	47	41	55	48	48
		SMK	88	92	90	93	92	93	86	88	87	90
		O	50	450	250	50	49	49	51	51	51	50
		P	26	26	26	28	29	28	29	29	29	29
5	ISK I 2016-5	PS	301	319	310	311	333	322	274	269	271	297
	CSMG 2010-28	D	105	104	105	113	111	112	101	101	101	106
		S	70	72	71	74	70	72	67	67	67	69
		HKW	36	38	37	45	40	42	39	46	43	43
		SMK	97	96	97	82	91	87	82	82	82	84
		O	50	49	50	51	51	51	52	52	52	51
		P	25	25	25	28	28	28	28	30	29	29
6	ISK I 2016-6	PS	303	317	310	319	316	318	276	302	289	303
	ICGV 07041	D	106	107	107	106	109	108	111	115	113	110
		S	71	72	72	67	68	67	71	72	71	69
		HKW	32	36	34	36	34	35	37	47	42	38
		SMK	94	98	96	90	87	89	89	90	90	89
		O	53	52	52	51	50	51	55	55	55	53
		P	26	26	26	29	29	29	28	27	27	28
7	ISK I 2016-7	PS	285	319	302	326	328	327	108	228	168	248
	TG 81	D	95	98	97	108	110	109	113	112	112	111
		S	70	71	71	76	70	73	67	67	67	70
		HKW	41	42	42	47	48	48	35	40	37	42
		SMK	84	95	90	89	90	90	81	81	81	85
		O	51	50	50	49	50	50	51	53	52	51
		P	25	25	25	29	30	29	27	28	28	28
8	ISK I 2016-8	PS	259	317	288	319	328	323	113	250	182	253
	TCGS 1616	D	100	102	101	114	115	115	101	100	101	108
		S	71	71	71	68	63	65	70	68	69	67
		HKW	38	40	39	31	34	32	38	51	45	39
		SMK	89	97	93	80	88	84	81	82	81	83
		O	50	49	50	50	50	50	51	53	52	51
		P	26	27	27	29	29	29	30	29	29	29

S.N.	Entry	Trait	Mainpuri*			Durgapura			Ludhiana			Pooled mean (2 ctrs)
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	
9	ISK I 2016-9	PS	303	319	311	322	329	325	150	248	199	262
	GNH 804	D	105	102	104	112	110	111	108	111	110	110
		S	70	72	71	68	64	66	67	67	67	67
		HKW	45	47	46	48	45	47	44	54	49	48
		SMK	96	95	96	90	90	90	86	86	86	88
		O	51	47	49	50	50	50	51	53	52	51
		P	25	26	26	28	29	28	27	28	28	28
10	ISK I 2016-10	PS	271	310	291	321	322	322	222	315	269	295
	K 1789	D	106	104	105	110	109	110	108	107	108	109
		S	66	69	68	66	63	65	64	64	64	65
		HKW	34	36	35	32	42	37	28	43	35	36
		SMK	86	98	92	90	87	89	86	86	86	87
		O	50	52	51	50	51	50	54	54	54	52
		P	25	26	26	29	28	28	28	28	28	28
11	ISK I 2016-13	PS	306	317	311	315	331	323	218	292	255	289
	Dh 243	D	107	105	106	110	111	111	116	117	116	113
		S	69	71	70	67	68	67	64	63	64	65
		HKW	30	32	31	32	30	31	34	42	38	34
		SMK	89	97	93	82	86	84	83	82	83	83
		O	52	50	51	50	49	49	53	54	54	51
		P	25	26	26	29	29	29	28	28	28	29
12	ISK I 2016-14	PS	292	315	303	318	331	325	282	319	301	313
	Dh 256	D	103	103	103	106	106	106	111	110	110	108
		S	67	69	68	69	67	68	72	71	72	70
		HKW	35	37	36	35	39	37	35	46	40	39
		SMK	94	98	96	92	89	91	80	81	80	85
		O	52	51	51	50	51	50	53	55	54	52
		P	27	26	26	29	31	30	27	29	28	29
13	ISK I 2016-15	PS	302	315	308	319	336	327	195	228	212	269
	ICGV 07214	D	95	97	96	108	109	109	107	107	107	108
		S	71	72	72	70	65	68	72	73	72	70
		HKW	30	34	32	42	40	41	33	42	37	39
		SMK	97	96	97	88	91	90	85	86	86	88
		O	51	50	51	52	48	50	53	53	53	51
		P	26	26	26	29	28	28	29	28	28	28
14	ISK I 2016-27	PS	306	312	309	314	327	321	268	248	258	289
	TAG 24 (ZC)	D	106	102	104	109	110	110	129	124	127	118
		S	71	72	72	70	73	72	67	68	68	70
		HKW	38	42	40	46	44	45	40	48	44	44
		SMK	96	97	97	92	90	91	80	82	81	86
		O	51	49	50	50	48	49	55	53	54	52
		P	26	25	26	28	28	28	29	28	28	28
15	ISK I 2016-28	PS	238	317	278	318	328	323	149	278	214	268
	TG 37A (ZC)	D	100	100	100	109	110	110	122	122	122	116
		S	72	70	71	71	75	73	67	66	67	70
		HKW	37	40	39	40	45	43	35	45	40	41
		SMK	90	92	91	90	91	91	84	83	84	87
		O	51	50	51	50	52	51	53	53	53	52
		P	27	26	26	28	29	29	27	29	28	28
Final plant stand (000/ha)												
	G.M		286	315	300	318	327	322	195	272	233	278
	S.E. Diff. Mean		8.8	5.1	7.2	4.1	4.3	4.2	20.2	15.1	17.9	13.0
	CD at 5%		17.8	NS	14.4	8.3	8.8	8.4	40.8	30.5	35.7	25.4
	CV %		4.4	2.3	3.4	1.8	1.9	1.9	14.7	7.9	10.8	6.6

* The centre not included in the pooled analysis because its pod yield was below triennial national average (1462 kg/ha).

ZONE II

Table 14a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Pod yield (kg/ha)

S.N.	Entry	Junagadh			Amreli			Udaipur			Pratapgarh			Pooled mean	R
		2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean		
1	ISK I 2016-1	2956	1702	2329	3689	537	2113	2821	3423	3122	2789	1707	2248	2453	11
	RHRG 1344														
2	ISK I 2016-2	3281	1766	2524	3418	793	2105	4170	3675	3922	1892	781	1337	2472	10
	J 93														
3	ISK I 2016-3	3744	1831	2787	3333	1306	2320	2969	3226	3097	1806	868	1337	2385	13
	NRCG CS-435														
4	ISK I 2016-4	3559	1566	2562	3264	917	2090	3501	3429	3465	2025	926	1476	2398	12
	J 92														
5	ISK I 2016-5	3044	1512	2278	3488	639	2063	3715	3820	3767	1910	810	1360	2367	14
	CSMG 2010-28														
6	ISK I 2016-6	4728	2646	3687	4630	1424	3027	3843	3009	3426	3038	1129	2083	3056	1
	ICGV 07041														
7	ISK I 2016-7	2737	1558	2148	2577	934	1755	2561	4644	3602	1887	955	1421	2231	17
	TG 81														
8	ISK I 2016-8	2575	1522	2049	3171	974	2073	3626	3872	3749	2055	839	1447	2329	15
	TCGS 1616														
9	ISK I 2016-9	3033	1762	2397	3326	1019	2172	4505	3713	4109	3548	1013	2280	2740	5
	GNH 804														
10	ISK I 2016-10	2868	2150	2509	3465	1252	2358	2500	3733	3116	2732	1534	2133	2529	9
	K 1789														
11	ISK I 2016-13	2014	1502	1758	3006	633	1819	2844	3458	3151	3519	1128	2323	2263	16
	Dh 243														
12	ISK I 2016-14	3773	2836	3304	3634	1501	2567	3203	3718	3461	3704	1273	2489	2955	2
	Dh 256														
13	ISK I 2016-15	2772	2489	2631	3241	1360	2300	3926	4152	4039	3721	1534	2627	2899	3
	ICGV 07214														
14	ISK I 2016-28	2657	1626	2141	1967	870	1419	1487	3336	2412	1782	984	1383	1839	18
	TG 37A (ZC)														
15	ISK I 2016-29	3457	1849	2653	3434	1406	2420	3678	3660	3669	2564	1129	1846	2647	7
	GG 7 (ZC)														
16	ISK I 2016-30	4138	1636	2887	3897	1073	2485	4159	3817	3988	3067	1071	2069	2857	4
	SG 99 (ZC)														
17	ISK I 2016-31	3431	1999	2715	3534	1237	2385	3504	3747	3626	3096	1129	2112	2710	6
	JL 501 (ZC)														
18	ISK I 2016-32	3333	1873	2603	3920	1290	2605	3192	3310	3251	2871	1245	2058	2629	8
	GJG 9 (ZC)														
	GM	3228	1879	2553	3388	1064	2226	3345	3652	3498	2667	1114	1890	2542	
	S.E. Diff. Mean	319.9	161.5	253.4	373.8	77.9	270.0	343.2	383.8	364.0	298.6	131.9	230.8	284.1	
	CD at 5%	642.2	324.2	506.5	750.5	156.4	539.7	689.1	770.4	727.7	599.5	264.7	461.4	556.8	
	CV%	14.0	12.2	14.0	15.6	10.3	17.2	14.5	14.9	14.7	15.8	16.7	17.3	15.8	

Table 14b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Kernel yield (kg/ha)

S.N.	Entry	Junagadh			Amreli			Udaipur			Pratapgarh			Pooled mean	R
		2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean		
1	ISK I 2016-1	2038	1241	1640	2316	284	1300	2001	2252	2126	1938	1066	1502	1642	11
	RHRG 1344														
2	ISK I 2016-2	2218	1180	1699	1991	485	1238	3139	2728	2933	1202	485	843	1678	10
	J 93														
3	ISK I 2016-3	2732	1296	2014	2031	852	1441	2098	2145	2122	1320	509	915	1623	12
	NRCG CS-435														
4	ISK I 2016-4	2449	1005	1727	2002	573	1287	2301	2387	2344	1213	499	856	1554	13
	J 92														
5	ISK I 2016-5	1942	1004	1473	2201	368	1285	2583	2672	2627	1156	445	801	1546	14
	CSMG 2010-28														
6	ISK I 2016-6	3333	1823	2578	3071	878	1975	2396	2115	2256	2139	679	1409	2054	1
	ICGV 07041														
7	ISK I 2016-7	1865	1088	1476	1447	556	1001	1907	3349	2628	1181	578	880	1496	16
	TG 81														
8	ISK I 2016-8	1958	1168	1563	2276	679	1477	2663	2821	2742	1386	559	972	1689	9
	TCGS 1616														
9	ISK I 2016-9	1946	1208	1577	2148	585	1366	3172	2753	2963	2412	546	1479	1846	7
	GNH 804														
10	ISK I 2016-10	1777	1348	1563	2107	699	1403	1536	2101	1819	1564	881	1222	1502	15
	K 1789														
11	ISK I 2016-13	1337	1031	1184	1839	324	1082	1943	2419	2181	2071	666	1368	1454	17
	Dh 243														
12	ISK I 2016-14	2578	1938	2258	2402	937	1669	2126	2472	2299	2658	829	1743	1992	2
	Dh 256														
13	ISK I 2016-15	1922	1788	1855	1958	804	1381	2560	2575	2567	2550	892	1721	1881	5
	ICGV 07214														
14	ISK I 2016-28	1830	1091	1460	1281	528	904	990	2215	1603	1128	618	873	1210	18
	TG 37A (ZC)														
15	ISK I 2016-29	2557	1373	1965	2253	937	1595	2606	2373	2489	1713	641	1177	1806	8
	GG 7 (ZC)														
16	ISK I 2016-30	2883	1148	2015	2674	628	1651	3061	2512	2787	2004	666	1335	1947	3
	SG 99 (ZC)														
17	ISK I 2016-31	2435	1483	1959	2371	800	1585	2412	2717	2564	2181	719	1450	1890	4
	JL 501 (ZC)														
18	ISK I 2016-32	2391	1396	1893	2678	861	1770	2303	2441	2372	1945	855	1400	1859	6
	GJG 9 (ZC)														
	GM	2233	1311	1772	2169	654	1412	2322	2503	2412	1764	674	1219	1704	
	S.E. Diff. Mean	226.9	113.9	179.5	272.6	48.3	195.7	237.8	270.1	254.4	201.3	79.0	152.9	199.1	
	CD at 5%	455.5	228.6	358.8	547.2	96.9	391.2	477.3	542.2	508.5	404.1	158.5	305.6	390.3	
	CV%	14.4	12.3	14.3	17.8	10.4	19.6	14.5	15.3	14.9	16.1	16.6	17.7	16.5	

Table 14c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Ancillary traits

S.N.	Entry	Trait	Junagadh			Amreli			Udaipur			Pratapgarh			Pooled mean
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	
1	ISK I 2016-1	PS	305	314	310	219	186	203	333	333	333	252	297	274	280
	RHRG 1344	D	112	102	107	108	109	108	100	98	99	105	106	106	105
		S	69	73	71	63	53	58	71	66	69	70	62	66	66
		HKW	26	28	27	28	20	24	45	30	38	-	26	26	29
		SMK	87	95	91	95	81	88	91	88	90	-	86	86	89
		O	49	50	50	-	46	46	47	47	47	-	-	-	48
		P	27	28	28	-	27	27	29	29	29	-	-	-	28
2	ISK I 2016-2	PS	317	311	314	217	207	212	333	332	333	255	305	280	285
	J 93	D	109	101	105	113	113	113	101	96	99	110	106	108	106
		S	68	67	67	58	61	60	75	74	75	64	62	63	66
		HKW	45	42	44	39	40	39	46	51	49	-	40	40	43
		SMK	93	95	94	96	97	97	90	93	92	-	83	83	91
		O	49	51	50	-	47	47	49	49	49	-	-	-	49
		P	25	26	26		28	28	28	28	28	-	-	-	27
3	ISK I 2016-3	PS	306	317	312	225	210	217	333	333	333	245	302	273	284
	NRCG CS-435	D	112	102	107	104	105	104	95	96	96	102	108	105	103
		S	73	71	72	61	65	63	71	67	69	73	59	66	67
		HKW	51	42	47	36	37	36	44	44	44	-	33	33	40
		SMK	99	98	98	97	95	96	90	91	91	-	87	87	93
		O	51	52	52	-	47	47	50	49	49	-	-	-	49
		P	27	25	26		29	29	29	30	29	-	-	-	28
4	ISK I 2016-4	PS	320	310	315	219	207	213	333	332	333	237	292	265	281
	J 92	D	110	104	107	106	108	107	99	98	99	95	105	100	103
		S	69	64	66	61	62	62	66	70	68	60	54	57	63
		HKW	40	34	37	34	37	36	48	46	47	-	26	26	36
		SMK	91	92	91	96	96	96	89	90	90	-	88	88	91
		O	52	52	52	-	49	49	49	50	50	-	-	-	50
		P	24	26	25	-	27	27	27	29	28	-	-	-	27
5	ISK I 2016-5	PS	277	312	295	225	154	189	333	333	333	255	310	282	275
	CSMG 2010-28	D	108	109	109	114	115	114	101	96	99	105	106	106	107
		S	64	66	65	63	58	60	70	70	70	61	55	58	63
		HKW	33	35	34	36	27	32	47	41	44	-	33	33	36
		SMK	86	94	90	96	88	92	82	91	87	-	90	90	90
		O	50	50	50	-	47	47	49	50	50	-	-	-	49
		P	23	26	25	-	26	26	28	28	28	-	-	-	26
6	ISK I 2016-6	PS	322	321	322	223	188	205	333	332	333	226	299	262	280
	ICGV 07041	D	115	108	112	103	104	104	102	101	102	110	106	108	106
		S	71	69	70	66	62	64	62	70	66	70	60	65	66
		HKW	35	35	35	37	33	35	42	41	42	-	29	29	35
		SMK	91	88	89	97	91	94	83	91	87	-	88	88	90
		O	52	51	52	-	51	51	53	51	52	-	-	-	51
		P	26	27	27	-	29	29	28	29	29	-	-	-	28
7	ISK I 2016-7	PS	261	318	290	183	209	196	221	332	277	240	304	272	259
	TG 81	D	112	104	108	105	106	106	99	95	97	97	104	101	103
		S	68	70	69	56	60	58	75	72	74	63	61	62	66
		HKW	35	38	36	35	30	33	50	41	46	-	34	34	37
		SMK	93	92	93	97	95	96	83	93	88	-	90	90	92
		O	50	50	50	-	47	47	49	48	48	-	-	-	48
		P	25	27	26	-	28	28	29	29	29	-	-	-	28
8	ISK I 2016-8	PS	289	318	304	224	209	217	333	332	333	230	306	268	280
	TCGS 1616	D	111	104	108	106	108	107	97	95	96	99	104	102	103
		S	76	77	76	71	70	71	73	73	73	68	67	67	72
		HKW	41	41	41	47	39	43	53	42	48	-	34	34	41
		SMK	92	95	94	98	99	98	83	91	87	-	90	90	92
		O	50	51	51	-	49	49	48	49	49	-	-	-	49
		P	27	28	28	-	29	29	30	30	30	-	-	-	29
9	ISK I 2016-9	PS	325	328	327	222	208	215	333	332	333	226	299	262	284
	GNH 804	D	110	112	111	107	108	107	99	101	100	112	104	108	107
		S	64	69	66	65	57	61	71	74	73	68	54	61	65
		HKW	36	38	37	43	35	39	47	48	48	-	31	31	39
		SMK	85	90	87	97	93	95	86	87	87	-	87	87	89
		O	49	49	49	-	47	47	50	49	49	-	-	-	48
		P	24	25	25	-	26	26	27	27	27	-	-	-	26

S.N.	Entry	Trait	Junagadh			Amreli			Udaipur			Pratapgarh			Pooled mean
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	
10	ISK I 2016-10	PS	315	315	315	198	200	199	333	330	332	232	310	271	279
	K 1789	D	109	111	110	104	104	104	103	102	103	98	106	102	105
		S	62	63	62	61	56	58	62	56	59	57	57	57	59
		HKW	26	30	28	30	27	29	40	30	35	-	27	27	30
		SMK	85	91	88	95	95	95	81	91	86	-	90	90	90
		O	51	51	51	-	49	49	51	50	51	-	-	-	50
		P	27	28	28	-	29	29	29	29	29	-	-	-	28
11	ISK I 2016-13	PS	321	317	319	221	211	216	333	332	333	236	308	272	285
	Dh 243	D	115	106	111	109	110	109	96	93	95	108	104	106	105
		S	66	69	68	61	51	56	69	70	70	59	59	59	63
		HKW	30	32	31	28	21	24	38	36	37	-	25	25	29
		SMK	88	89	88	97	79	88	84	86	85	-	86	86	87
		O	52	53	53	-	47	47	51	50	50	-	-	-	50
		P	26	27	27	-	26	26	29	30	29	-	-	-	27
12	ISK I 2016-14	PS	326	315	321	223	203	213	333	332	333	240	301	271	284
	Dh 256	D	115	109	112	105	105	105	99	95	97	110	103	107	105
		S	68	68	68	66	63	64	67	67	67	72	65	68	67
		HKW	33	28	31	35	31	33	44	33	39	-	31	31	33
		SMK	83	90	87	98	94	96	89	86	88	-	87	87	89
		O	51	51	51	-	50	50	51	51	51	-	-	-	51
		P	27	28	28	-	29	29	28	30	29	-	-	-	29
13	ISK I 2016-15	PS	299	321	310	213	203	208	333	332	333	237	305	271	280
	ICGV 07214	D	109	109	109	109	110	109	96	94	95	107	106	107	105
		S	69	72	71	61	59	60	65	62	64	69	58	63	64
		HKW	27	30	28	27	21	24	46	34	40	-	33	33	31
		SMK	82	87	84	95	89	92	88	86	87	-	87	87	88
		O	51	51	51	-	47	47	50	50	50	-	-	-	49
		P	26	28	27	-	26	26	29	29	29	-	-	-	27
14	ISK I 2016-28	PS	237	317	277	156	206	181	113	332	223	229	299	264	236
	TG 37A (ZC)	D	106	102	104	111	112	112	101	95	98	100	106	103	104
		S	69	67	68	65	61	63	67	67	67	63	63	63	65
		HKW	34	33	34	41	33	37	51	41	46	-	35	35	38
		SMK	89	94	91	97	95	96	86	83	85	-	84	84	89
		O	51	51	51	-	48	48	49	49	49	-	-	-	49
		P	24	26	25	-	27	27	28	29	28	-	-	-	27
15	ISK I 2016-29	PS	318	317	318	220	212	216	333	332	333	249	303	276	285
	GG 7 (ZC)	D	109	103	106	107	107	107	101	95	98	108	105	107	104
		S	74	74	74	66	67	66	71	65	68	67	58	62	68
		HKW	43	45	44	41	36	38	49	42	46	-	39	39	42
		SMK	87	95	91	98	96	97	89	91	90	-	90	90	92
		O	50	50	50	-	47	47	47	48	48	-	-	-	48
		P	25	26	26	-	28	28	28	28	28	-	-	-	27
16	ISK I 2016-30	PS	321	313	317	225	191	208	333	332	333	252	306	279	284
	SG 99 (ZC)	D	108	111	110	104	105	104	101	97	99	105	103	104	104
		S	70	70	70	69	59	64	74	66	70	65	62	64	67
		HKW	42	37	40	46	36	41	47	43	45	-	40	40	41
		SMK	86	92	89	96	91	93	82	92	87	-	91	91	90
		O	51	51	51	-	47	47	49	50	49	-	-	-	49
		P	23	25	24	-	26	26	28	28	28	-	-	-	26
17	ISK I 2016-31	PS	307	314	311	213	208	210	333	332	333	240	302	271	281
	JL 501 (ZC)	D	110	106	108	105	105	105	100	95	98	102	102	102	103
		S	71	74	73	67	65	66	69	73	71	71	64	67	69
		HKW	32	35	34	41	35	38	45	41	43	-	32	32	37
		SMK	91	96	93	97	95	96	84	90	87	-	89	89	91
		O	49	50	50	-	48	48	48	49	48	-	-	-	49
		P	23	25	24	-	26	26	27	28	28	-	-	-	26
18	ISK I 2016-32	PS	314	324	319	224	199	211	333	333	333	240	291	266	282
	GJG 9 (ZC)	D	112	103	108	110	111	110	103	98	101	98	103	101	105
		S	72	75	73	68	67	67	72	74	73	68	69	68	70
		HKW	40	43	41	42	37	40	49	44	47	-	39	39	42
		SMK	96	97	96	98	95	97	82	93	88	-	91	91	93
		O	50	49	50	-	47	47	46	48	47	-	-	-	48
		P	24	27	26	-	28	28	29	29	29	-	-	-	27
Final plant stand (000/ha)															
	G.M		304	317	311	214	201	207	315	332	323	240	302	271	278
	S.E. Diff. Mean		11.4	4.7	8.7	5.4	5.3	5.4	7.6	1.5	5.4	11.3	8.8	10.1	7.7
	CD at 5%		22.9	NS	17.4	10.8	10.7	10.7	15.2	NS	10.9	NS	NS	NS	15.1
	CV %		5.3	2.1	4.0	3.6	3.8	3.7	3.4	0.6	2.4	6.7	4.1	5.3	3.9

ZONE III

Table 15a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Pod yield (kg/ha)

S.N.	Entry	Gwalior			Akola			Jalgaon			Latur			Raigarh			Shirgaon			Pooled	
		2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	mean	R
1	ISK I 2016-1	2353	1917	2135	2485	1331	1908	3209	1138	2174	2328	2190	2259	1936	2674	2305	2465	3174	2819	2266	10
	RHRG 1344																				
2	ISK I 2016-2	2454	2407	2431	2697	1998	2347	2413	1204	1808	1614	1251	1432	3116	3525	3321	4215	4623	4419	2626	4
	J 93																				
3	ISK I 2016-3	2492	2269	2380	3113	2059	2586	2629	1193	1911	1890	1119	1505	2065	2348	2206	3033	4313	3673	2377	6
	NRCG CS-435																				
4	ISK I 2016-4	1979	2197	2088	2747	1162	1955	2205	1488	1847	1788	1187	1487	2701	1828	2264	3866	2999	3432	2179	11
	J 92																				
5	ISK I 2016-5	2905	2370	2637	2898	1196	2047	1635	1522	1578	1681	1067	1374	2630	3334	2982	1912	1827	1869	2081	13
	CSMG 2010-28																				
6	ISK I 2016-6	1827	2097	1962	2566	1641	2104	2893	2792	2843	3208	2611	2909	3241	3811	3526	3003	4291	3647	2832	3
	ICGV 07041																				
7	ISK I 2016-7	1320	1298	1309	2312	1833	2072	1519	1470	1494	1192	1441	1316	1707	2023	1865	2207	3455	2831	1815	17
	TG 81																				
8	ISK I 2016-8	2453	2370	2411	2169	1580	1874	2782	1141	1961	1555	1182	1369	1732	1283	1508	2771	3169	2970	2015	15
	TCGS 1616																				
9	ISK I 2016-9	2563	2432	2497	2436	1246	1841	2130	1569	1849	1518	1284	1401	2210	4281	3245	3153	3640	3397	2372	7
	GNH 804																				
10	ISK I 2016-10	1712	1850	1781	2358	1864	2111	1930	2239	2084	2081	2457	2269	2053	1512	1782	1801	4161	2981	2168	12
	K 1789																				
11	ISK I 2016-13	2492	1905	2198	2364	1090	1727	1731	1000	1366	3166	1699	2432	1749	2483	2116	2961	2133	2547	2064	14
	Dh 243																				
12	ISK I 2016-14	2458	2401	2429	2419	1426	1922	3189	2656	2922	2868	3007	2937	3332	4403	3867	3412	3964	3688	2961	1
	Dh 256																				
13	ISK I 2016-15	2654	2520	2587	3220	1100	2160	2913	2123	2518	2179	2036	2107	1624	2275	1950	2093	2821	2457	2296	9
	ICGV 07214																				
14	ISK I 2016-27	2536	2227	2382	2575	1774	2174	2504	1331	1917	1184	1226	1205	2312	3329	2821	3378	3281	3329	2305	8
	TAG 24 (ZC)																				
15	ISK I 2016-33	2488	2375	2431	2751	1916	2333	2485	1724	2104	1836	1457	1646	1904	3663	2783	2955	3493	3224	2420	5
	AK 159 (ZC)																				
16	ISK I 2016-34	2135	2366	2250	2456	1102	1779	2492	1596	2044	1570	932	1251	1501	1635	1568	2385	2661	2523	1902	16
	GG 8 (ZC)																				
17	ISK I 2016-35	2030	2151	2090	2978	1462	2220	3092	2787	2939	3012	2851	2931	3076	3691	3383	4256	3023	3639	2867	2
	JL 776 (ZC)																				
	GM	2285	2185	2235	2620	1516	2068	2456	1704	2080	2039	1706	1872	2287	2829	2558	2933	3354	3144	2326	
	S.E. Diff. Mean	94.7	171.0	138.2	257.6	134.9	205.6	224.3	146.2	189.3	176.6	228.5	204.2	74.2	351.6	254.1	290.2	270.7	280.6	216.9	
	CD at 5%	190.5	343.8	276.3	518.0	271.2	411.0	451.0	293.9	378.4	355.1	459.4	408.2	149.1	707.0	507.9	583.5	544.3	560.9	425.1	
	CV%	5.9	11.1	8.7	13.9	12.6	14.1	12.9	12.1	12.9	12.2	18.9	15.4	4.6	17.6	14.1	14.0	11.4	12.6	13.2	

Note :There was a missing entry namely ISK I 2016-8 in both the years (2016 and 2017) at Shirgaon centre. To perform overlocations analysis, the mean pod and kernel yields of the centre was considered.

Table 15b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Kernel yield (kg/ha)

S.N.	Entry	Gwalior			Akola			Jalgaon			Latur			Raigarh			Shirgaon			Pooled	R
		2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	mean	
1	ISK I 2016-1	1594	1287	1441	1589	804	1196	2063	750	1406	1591	1436	1514	1341	1752	1546	1533	2063	1798	1483	10
	RHRG 1344																				
2	ISK I 2016-2	1662	1643	1652	1802	1233	1518	1551	751	1151	1117	793	955	2011	2247	2129	2979	3289	3134	1756	4
	J 93																				
3	ISK I 2016-3	1689	1519	1604	2082	1247	1664	1775	872	1323	1317	738	1027	1322	1499	1410	2125	3191	2658	1614	7
	NRCG CS-435																				
4	ISK I 2016-4	1297	1430	1363	1862	701	1281	1371	1013	1192	1235	736	985	1790	1129	1459	2717	2270	2493	1462	11
	J 92																				
5	ISK I 2016-5	2012	1604	1808	1774	732	1253	1043	1081	1062	1130	677	904	1897	2452	2174	1175	1345	1260	1410	14
	CSMG 2010-28																				
6	ISK I 2016-6	1196	1383	1289	1729	1026	1377	2054	2047	2050	2252	1759	2006	2343	2458	2401	2108	3013	2561	1947	3
	ICGV 07041																				
7	ISK I 2016-7	904	876	890	1502	1273	1387	1000	1021	1010	786	898	842	1084	1365	1224	1501	2507	2004	1226	17
	TG 81																				
8	ISK I 2016-8	1681	1625	1653	1580	952	1266	1989	869	1429	1103	892	998	1130	711	921	1784	2275	2030	1383	15
	TCGS 1616																				
9	ISK I 2016-9	1718	1641	1679	1554	763	1159	1437	1048	1242	1033	810	922	1492	3148	2320	2386	2696	2541	1644	6
	GNH 804																				
10	ISK I 2016-10	1138	1267	1202	1464	1173	1319	1260	1503	1381	1389	1559	1474	1343	1007	1175	1199	2946	2073	1437	12
	K 1789																				
11	ISK I 2016-13	1700	1245	1472	1770	693	1231	1164	634	899	2233	1114	1673	1267	1588	1428	2080	1567	1823	1421	13
	Dh 243																				
12	ISK I 2016-14	1652	1590	1621	1729	919	1324	2272	1913	2092	1897	2115	2006	2457	3267	2862	2390	2848	2619	2087	1
	Dh 256																				
13	ISK I 2016-15	1805	1647	1726	2424	695	1560	1974	1515	1744	1500	1444	1472	1168	1650	1409	1317	1996	1656	1594	8
	ICGV 07214																				
14	ISK I 2016-27	1724	1456	1590	1793	1167	1480	1689	857	1273	806	764	785	1745	2187	1966	2075	2410	2242	1556	9
	TAG 24 (ZC)																				
15	ISK I 2016-33	1667	1602	1634	1976	1308	1642	1549	1153	1351	1248	915	1081	1208	2689	1948	2103	2315	2209	1644	5
	AK 159 (ZC)																				
16	ISK I 2016-34	1442	1572	1507	1847	680	1264	1626	1169	1397	1124	602	863	923	899	911	1628	1989	1808	1292	16
	GG 8 (ZC)																				
17	ISK I 2016-35	1390	1451	1421	2083	948	1515	2179	2026	2102	1981	1972	1977	2291	2557	2424	3178	2137	2657	2016	2
	JL 776 (ZC)																				
	GM	1545	1461	1503	1798	960	1379	1647	1189	1418	1396	1131	1264	1577	1918	1747	2016	2403	2210	1587	
	S.E. Diff. Mean	68.4	117.9	96.4	183.8	84.8	143.1	157.4	105.8	134.1	122.0	156.0	140.0	54.2	267.2	192.8	200.3	200.0	200.1	155.2	
	CD at 5%	137.6	237.1	192.7	369.6	170.4	286.1	316.4	212.7	268.0	245.3	313.6	279.8	108.9	537.3	385.3	402.8	402.1	400.0	304.2	
	CV%	6.3	11.4	9.1	14.5	12.5	14.7	13.5	12.6	13.4	12.4	19.5	15.7	4.9	19.7	15.6	14.1	11.8	12.8	13.8	

Note :There was a missing entry namely ISK I 2016-8 in both the years (2016 and 2017) at Shirgaon centre. To perform overlocations analysis, the mean pod and kernel yields of the centre was considered.

Table 15c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Ancillary traits

S.N.	Entry	Trait	Gwalior			Akola			Jalgaon			Latur			Raigarh			Shirgaon			Pooled
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	mean
1	ISK I 2016-1	PS	247	242	244	278	210	244	265	303	284	315	317	316	326	310	318	287	321	304	285
	RHRG 1344	D	110	108	109	119	118	119	105	118	112	112	120	116	133	129	131	92	97	95	113
		S	68	67	68	64	61	62	64	66	65	68	66	67	69	66	68	62	65	64	65
		HKW	35	32	33	36	29	32	23	21	22	33	31	32	50	40	45	29	34	32	33
		SMK	89	88	89	89	85	87	90	94	92	88	61	74	96	97	96	84	79	82	87
		O	49	50	50	51	49	50	48	49	49	49	48	48	-	47	47	47	49	48	49
		P	27	28	28	26	27	27	26	27	27	26	26	26	-	29	29	29	30	30	27
2	ISK I 2016-2	PS	267	314	290	259	205	232	252	310	281	309	323	316	314	309	311	318	323	321	292
	J 93	D	107	107	107	115	116	116	102	109	106	104	109	106	136	134	135	87	97	92	110
		S	68	68	68	67	62	64	64	62	63	69	63	66	65	64	64	71	71	71	66
		HKW	41	38	40	61	41	51	38	36	37	49	41	45	60	33	46	63	49	56	46
		SMK	91	89	90	81	86	84	96	95	95	89	59	74	97	97	97	86	81	84	87
		O	49	49	49	51	49	50	49	51	50	49	48	49	-	48	48	47	49	48	49
		P	27	29	28	24	26	25	26	26	26	24	24	24		27	27	29	30	30	27
3	ISK I 2016-3	PS	266	285	276	285	213	249	242	308	275	318	319	319	329	307	318	323	317	320	293
	NRCG CS-435	D	108	109	109	116	116	116	101	109	105	105	107	106	136	133	134	88	97	93	110
		S	68	67	67	67	61	64	68	73	70	70	66	68	64	64	64	70	74	72	68
		HKW	42	39	40	57	43	50	45	38	41	46	38	42	43	33	38	49	44	47	43
		SMK	91	86	89	89	85	87	94	96	95	86	61	74	97	96	96	80	82	81	87
		O	48	50	49	53	50	52	52	52	52	51	50	50	-	51	51	49	50	50	51
		P	28	28	28	25	28	27	27	27	27	24	24	24	-	28	28	28	30	29	27
4	ISK I 2016-4	PS	208	287	248	295	197	246	241	319	280	295	319	307	330	306	318	307	318	313	285
	J 92	D	109	110	109	118	117	118	104	109	106	108	109	109	127	128	127	93	99	96	111
		S	66	65	65	68	60	64	63	68	65	69	62	66	66	61	64	70	76	73	66
		HKW	43	40	41	43	38	41	33	31	32	41	34	37	48	38	43	48	41	45	40
		SMK	90	85	87	87	84	86	97	93	95	88	57	73	95	94	95	89	82	86	87
		O	51	50	51	53	52	53	52	58	55	53	51	52	-	50	50	48	50	49	52
		P	26	27	27	25	26	26	24	24	24	22	23	23	-	28	28	28	30	29	26
5	ISK I 2016-5	PS	296	298	297	288	229	259	247	311	279	319	314	317	329	292	310	308	304	306	295
	CSMG 2010-28	D	110	112	111	119	118	119	107	109	108	113	108	111	126	122	124	87	119	103	112
		S	69	68	69	61	61	61	64	71	67	67	64	65	72	74	73	62	74	68	67
		HKW	39	39	39	40	33	36	28	36	32	42	37	39	45	46	46	41	51	46	40
		SMK	88	86	87	87	86	86	93	90	91	88	60	74	87	95	91	87	78	83	85
		O	51	51	51	51	49	50	51	49	50	50	48	49	-	49	49	47	49	48	50
		P	26	28	27	23	26	25	24	25	24	23	24	23	-	26	26	27	29	28	26
6	ISK I 2016-6	PS	198	256	227	298	214	256	281	306	293	312	315	314	321	308	314	312	322	317	287
	ICGV 07041	D	110	114	112	112	113	113	109	109	109	110	119	114	125	124	124	94	114	104	113
		S	66	66	66	67	63	65	71	73	72	70	68	69	72	65	68	70	70	70	68
		HKW	39	40	39	45	36	40	32	36	34	40	39	40	37	46	42	55	50	53	41
		SMK	88	87	88	75	85	80	96	94	95	89	62	76	95	97	96	83	80	82	86
		O	52	50	51	54	53	54	53	53	53	54	52	53	-	51	51	49	52	51	52
		P	25	27	26	24	27	26	25	28	27	25	26	25	-	28	28	27	29	28	27

S.N.	Entry	Trait	Gwalior			Akola			Jalgaon			Latur			Raigarh			Shirgaon			Pooled
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	mean
7	ISK I 2016-7	PS	76	232	154	170	204	187	200	306	253	260	322	291	333	305	319	269	317	293	250
	TG 81	D	109	111	110	115	116	116	107	119	113	106	110	108	126	126	126	91	100	96	111
		S	69	68	68	65	69	67	66	69	67	66	62	64	64	68	66	68	73	70	67
		HKW	41	41	41	49	36	43	29	36	33	36	32	34	51	34	42	40	36	38	38
		SMK	87	86	86	85	81	83	96	87	91	88	55	71	97	95	96	91	82	87	86
		O	50	49	50	51	49	50	50	51	51	49	48	49	-	50	50	47	50	49	50
		P	26	28	27	24	27	26	27	27	27	23	24	24	-	29	29	27	30	29	27
8	ISK I 2016-8	PS	263	291	277	248	206	227	254	313	283	319	299	309	317	307	312	282	317	300	285
	TCGS 1616	D	109	110	109	117	116	117	102	110	106	111	109	110	136	133	134	-	-	-	115
		S	69	69	69	73	60	67	72	76	74	71	76	73	65	55	60	64	72	68	68
		HKW	42	36	39	57	40	48	37	33	35	42	36	39	54	46	50	-	-	-	42
		SMK	89	85	87	92	85	89	96	94	95	89	69	79	97	96	97	-	-	-	89
		O	49	51	50	51	50	51	50	52	51	50	49	50	-	50	50	-	-	-	50
		P	28	27	28	25	28	27	26	27	27	24	25	24	-	29	29	-	-	-	27
9	ISK I 2016-9	PS	248	294	271	317	210	264	256	280	268	313	321	317	333	298	316	288	317	303	290
	GNH 804	D	108	109	108	116	115	116	109	110	109	104	115	109	131	132	131	94	100	97	112
		S	67	68	67	64	61	63	67	67	67	68	63	66	68	74	71	76	74	75	68
		HKW	43	39	41	34	37	35	37	30	33	51	37	44	45	36	41	49	48	49	40
		SMK	88	85	87	88	81	84	96	97	96	88	61	74	96	93	94	87	83	85	87
		O	50	52	51	52	49	51	49	49	49	49	48	48	-	47	47	48	49	49	49
		P	27	28	28	23	25	24	24	25	25	23	23	23	-	26	26	27	30	29	26
10	ISK I 2016-10	PS	187	236	211	258	234	246	239	304	271	298	307	302	325	306	315	272	320	296	274
	K 1789	D	110	110	110	117	117	117	110	119	114	111	124	117	129	124	126	116	101	109	116
		S	67	69	68	62	63	63	65	67	66	67	64	65	66	67	66	67	71	69	66
		HKW	34	33	34	37	32	34	27	29	28	36	35	35	37	43	40	73	49	61	39
		SMK	87	86	86	84	86	85	96	97	96	91	59	75	95	94	94	86	81	84	87
		O	52	51	52	51	51	51	52	53	52	55	52	53	-	51	51	49	50	50	51
		P	26	28	27	25	28	27	28	29	28	26	28	27	-	29	29	28	30	29	28
11	ISK I 2016-13	PS	240	229	234	278	229	254	262	302	282	321	314	317	320	307	314	296	314	305	284
	Dh 243	D	109	110	109	116	115	116	109	118	113	105	123	114	123	121	122	96	113	105	113
		S	68	65	67	75	64	69	67	63	65	71	66	68	73	64	68	70	74	72	68
		HKW	35	31	33	43	28	35	23	27	25	38	34	36	34	44	39	36	41	39	34
		SMK	86	86	86	69	84	77	94	88	91	87	60	74	92	97	94	79	83	81	84
		O	52	50	51	53	49	51	53	53	53	53	54	54	-	50	50	50	49	50	51
		P	26	27	27	26	26	26	26	26	26	27	26	26	-	26	26	29	29	29	27
12	ISK I 2016-14	PS	251	298	274	304	210	257	318	270	294	315	318	317	314	288	301	291	322	307	292
	Dh 256	D	110	110	110	117	116	117	110	110	110	107	120	113	123	120	121	92	103	98	111
		S	67	66	67	71	65	68	71	72	72	66	70	68	74	74	74	70	72	71	70
		HKW	41	39	40	33	34	33	33	34	33	40	42	41	40	36	38	34	41	38	37
		SMK	89	87	88	74	80	77	97	95	96	90	65	77	95	96	95	90	83	87	87
		O	52	50	51	53	51	52	51	52	51	52	51	52	-	51	51	48	49	49	51
		PS	26	27	27	26	27	27	27	26	27	27	27	27	-	29	29	28	30	29	27

S.N.	Entry	Trait	Gwalior			Akola			Jalgaon			Latur			Raigarh			Shirgaon			Pooled
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	mean
13	ISK I 2016-15	PS	273	303	288	290	215	253	268	304	286	308	319	314	317	307	312	312	317	315	294
	ICGV 07214	D	110	110	110	118	117	118	109	109	109	112	117	114	127	124	125	94	97	96	112
		S	68	65	67	75	63	69	68	71	70	69	71	70	72	73	72	63	71	67	69
		HKW	42	41	41	38	27	33	26	31	29	37	34	36	42	34	38	38	42	40	36
		SMK	88	81	84	61	80	70	98	93	95	89	64	76	93	93	93	84	83	84	84
		O	52	51	52	53	50	52	51	52	51	51	51	51	-	50	50	48	51	50	51
		P	27	27	27	25	26	26	25	26	26	24	25	25	-	28	28	28	29	29	27
14	ISK I 2016-27	PS	251	249	250	274	243	259	271	312	291	305	319	312	325	303	314	300	316	308	289
	TAG 24 (ZC)	D	109	110	110	117	117	117	102	109	106	110	108	109	124	121	122	87	101	94	110
		S	68	66	67	70	66	68	67	64	66	68	63	65	76	65	70	62	74	68	67
		HKW	42	35	39	47	31	39	28	27	27	36	30	33	43	37	40	39	47	43	37
		SMK	88	85	86	70	83	77	96	96	96	87	57	72	91	96	93	84	81	83	84
		O	51	50	51	53	53	53	51	52	52	50	49	50	-	52	52	48	50	49	51
		P	26	28	27	23	28	26	26	24	25	22	22	22	-	25	25	26	29	28	25
15	ISK I 2016-33	PS	262	291	276	296	236	266	248	311	280	303	307	305	328	308	318	314	318	316	293
	AK 159 (ZC)	D	109	110	110	118	117	118	103	110	106	113	110	111	134	131	132	88	111	100	113
		S	67	68	67	72	68	70	62	67	65	68	63	65	64	73	68	71	66	69	67
		HKW	38	33	36	42	33	37	27	26	26	38	31	34	38	39	39	35	32	34	34
		SMK	86	85	86	73	82	78	94	91	92	88	58	73	97	95	96	91	83	87	85
		O	51	52	52	53	53	53	52	54	53	54	52	53	-	52	52	50	51	51	52
		P	27	29	28	25	26	26	26	25	26	24	23	23	-	25	25	26	30	28	26
16	ISK I 2016-34	PS	263	303	283	291	207	249	254	309	282	317	311	314	329	291	310	302	300	301	290
	GG 8 (ZC)	D	109	110	110	118	116	117	102	109	105	107	109	108	129	126	127	86	101	94	110
		S	68	66	67	75	62	69	66	73	69	72	65	68	62	55	58	68	75	72	67
		HKW	37	33	35	47	37	42	31	30	31	38	33	36	48	38	43	40	41	41	38
		SMK	84	86	85	73	86	80	94	94	94	89	59	74	93	87	90	87	81	84	84
		O	49	50	50	51	49	50	49	51	50	49	48	49	-	49	49	46	49	48	49
		P	27	27	27	24	27	26	24	25	25	22	24	23	-	28	28	27	29	28	26
17	ISK I 2016-35	PS	190	244	217	266	205	236	274	264	269	307	313	310	317	301	309	308	317	313	275
	JL 776 (ZC)	D	106	107	106	118	117	118	110	110	110	106	120	113	127	124	125	101	109	105	113
		S	69	68	68	70	65	67	71	73	72	66	69	67	75	69	72	75	71	73	70
		HKW	41	37	39	52	33	42	35	32	33	41	42	41	44	44	44	43	48	46	41
		SMK	88	86	87	83	80	82	97	95	96	89	63	76	98	97	97	82	84	83	87
		O	51	51	51	52	51	52	51	51	51	52	50	51	-	51	51	49	51	50	51
		P	28	28	28	27	27	27	27	29	28	25	27	26	-	29	29	30	30	30	28
	Final plant stand (000/ha)																				
	G.M		234	274	254	276	216	246	257	302	279	308	315	312	324	303	313	299	316	308	285
	S.E. Diff. Mean		8.5	33.0	24.1	16.3	18.4	17.4	18.9	9.6	15.0	5.8	7.6	6.8	3.2	7.2	5.5	11.8	6.4	9.5	14.6
	CD at 5%		17.1	NS	48.2	32.8	NS	34.7	38.1	19.4	30.0	11.7	NS	13.5	6.3	NS	11.1	23.8	NS	19.0	28.6
	CV %		5.1	17.1	13.4	8.4	12.0	10.0	10.4	4.5	7.6	2.7	3.4	3.1	1.4	3.4	2.5	5.6	2.9	4.4	7.2

ZONE IV

Table 16a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Pod yield (kg/ha)

S.N.	Entry	Bhubaneswar			Imphal			Kanke			Mohanpur			Pooled mean	R
		2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean		
1	ISK I 2016-1	1794	2136	1965	2561	1943	2252	2280	2083	2182	1807	1801	1804	2051	12
	RHRG 1344														
2	ISK I 2016-2	1476	2326	1901	2159	1900	2029	2431	2546	2488	1484	1444	1464	1971	14
	J 93														
3	ISK I 2016-3	1684	2049	1866	2836	2607	2721	1869	1331	1600	1678	1613	1645	1958	15
	NRCG CS-435														
4	ISK I 2016-4	1592	2512	2052	2763	2377	2570	2720	1620	2170	2344	2424	2384	2294	6
	J 92														
5	ISK I 2016-5	1522	2286	1904	2538	1790	2164	2199	2315	2257	3171	3112	3141	2367	5
	CSMG 2010-28														
6	ISK I 2016-6	2413	2610	2512	3406	2148	2777	2211	2477	2344	2629	2637	2633	2566	3
	ICGV 07041														
7	ISK I 2016-7	1418	1939	1678	971	1427	1199	1482	2893	2187	3660	3722	3691	2189	8
	TG 81														
8	ISK I 2016-8	1458	1881	1670	2894	3199	3046	2118	2274	2196	773	861	817	1932	17
	TCGS 1616														
9	ISK I 2016-9	2315	1725	2020	3729	3098	3414	2442	2778	2610	3834	3854	3844	2972	1
	GNH 804														
10	ISK I 2016-10	1979	2402	2190	632	2217	1424	1742	2616	2179	2024	2010	2017	1953	16
	K 1789														
11	ISK I 2016-13	1424	2246	1835	2788	1777	2282	3264	1852	2558	1762	1763	1762	2109	11
	Dh 243														
12	ISK I 2016-14	2500	2367	2434	3450	2137	2793	2466	2836	2651	3255	3247	3251	2782	2
	Dh 256														
13	ISK I 2016-15	2193	2113	2153	3481	2410	2946	1950	2303	2127	1253	1369	1311	2134	10
	ICGV 07214														
14	ISK I 2016-36	1719	1817	1768	2329	2465	2397	2552	2662	2607	1985	1985	1985	2189	7
	OG 52-1 (ZC)														
15	ISK I 2016-37	1406	2344	1875	2600	2500	2550	2222	1840	2031	2101	2071	2086	2136	9
	Girnar 3 (ZC)														
16	ISK I 2016-38	1869	2083	1976	1544	1749	1646	2448	2373	2411	1852	1999	1925	1990	13
	GPBD 5 (ZC)														
17	ISK I 2016-39	2060	1794	1927	3144	2980	3062	2170	2581	2376	2449	2522	2486	2463	4
	R 2001-2 (ZC)														
	GM	1813	2155	1984	2578	2278	2428	2269	2317	2293	2239	2261	2250	2238	
	S.E. Diff. Mean	68.1	67.6	67.8	267.6	277.3	272.4	223.9	307.0	268.6	171.4	169.7	170.5	212.2	
	CD at 5%	136.9	135.8	135.6	538.0	557.6	544.6	450.1	617.2	537.0	344.6	341.2	NS	415.9	
	CV%	5.3	4.4	4.8	14.7	17.2	15.9	14.0	18.7	16.6	10.8	10.6	10.7	13.4	

Table 16b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Kernel yield (kg/ha)

S.N.	Entry	Bhubaneswar			Imphal			Kanke			Mohanpur			Pooled mean	R
		2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean		
1	ISK I 2016-1	1120	1279	1200	1821	1385	1603	1410	1380	1395	1242	1237	1240	1359	12
	RHRG 1344														
2	ISK I 2016-2	974	1461	1217	1513	1324	1418	1465	1588	1526	1028	1005	1017	1295	16
	J 93														
3	ISK I 2016-3	1106	1423	1264	2106	1935	2020	1071	840	955	1140	1106	1123	1341	14
	NRCG CS-435														
4	ISK I 2016-4	1084	1701	1392	1860	1684	1772	1951	1158	1555	1660	1708	1684	1601	5
	J 92														
5	ISK I 2016-5	937	1530	1233	1720	1188	1454	1260	1444	1352	2184	2151	2167	1551	7
	CSMG 2010-28														
6	ISK I 2016-6	1653	1842	1748	2460	1575	2017	1327	1583	1455	1844	1831	1838	1765	3
	ICGV 07041														
7	ISK I 2016-7	922	1246	1084	717	1017	867	996	2020	1508	2605	2627	2616	1518	8
	TG 81														
8	ISK I 2016-8	939	1371	1155	2197	2427	2312	1228	1521	1375	545	604	574	1354	13
	TCGS 1616														
9	ISK I 2016-9	1389	1025	1207	2727	2194	2461	1385	1793	1589	2736	2712	2724	1995	1
	GNH 804														
10	ISK I 2016-10	1262	1620	1441	442	1597	1020	979	1580	1279	1393	1386	1389	1282	17
	K 1789														
11	ISK I 2016-13	945	1319	1132	2052	1305	1678	2335	1300	1817	1253	1250	1252	1470	10
	Dh 243														
12	ISK I 2016-14	1701	1561	1631	2530	1469	1999	1570	1842	1706	2245	2261	2253	1897	2
	Dh 256														
13	ISK I 2016-15	1402	1423	1412	2549	1713	2131	1281	1502	1391	855	952	904	1459	11
	ICGV 07214														
14	ISK I 2016-36	1195	1271	1233	1805	1849	1827	1781	1913	1847	1378	1380	1379	1571	6
	OG 52-1 (ZC)														
15	ISK I 2016-37	900	1576	1238	1990	1881	1936	1336	1211	1273	1495	1483	1489	1484	9
	Girnar 3 (ZC)														
16	ISK I 2016-38	1173	1324	1248	1150	1276	1213	1316	1442	1379	1287	1420	1354	1298	15
	GPBD 5 (ZC)														
17	ISK I 2016-39	1433	1133	1283	2279	2075	2177	1511	1813	1662	1709	1778	1743	1716	4
	R 2001-2 (ZC)														
	GM	1184	1418	1301	1877	1641	1759	1424	1525	1474	1565	1582	1573	1527	
	S.E. Diff. Mean	50.5	60.9	56.0	196.9	200.3	198.6	151.9	213.1	185.0	126.3	129.3	127.8	152.6	
	CD at 5%	101.6	122.4	111.9	395.9	402.7	396.9	305.4	428.5	369.9	253.9	259.9	NS	299.1	
	CV%	6.0	6.1	6.1	14.8	17.3	16.0	15.1	19.8	17.8	11.4	11.6	11.5	14.1	

Table 16c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Ancillary traits

S.N.	Entry	Trait	Bhubaneswar			Imphal			Kanke			Mohanpur			Pooled mean
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	
1	ISK I 2016-1	PS	297	280	289	279	275	277	238	268	253	285	259	272	273
	RHRG 1344	D	117	107	112	118	117	118	122	120	121	105	107	106	114
		S	63	60	62	77	71	74	62	66	64	69	69	69	67
		HKW	26	22	24	35	31	33	39	40	40	42	42	42	35
		SMK	77	76	77	69	65	67	85	81	83	89	88	89	79
		O	-	48	48	48	47	48	48	-	48	-	54	54	49
		P	-	27	27	28	28	28	27	-	27	-	23	23	26
2	ISK I 2016-2	PS	280	296	288	273	304	288	250	293	272	256	249	253	275
	J 93	D	102	106	104	113	116	115	122	123	123	104	103	104	111
		S	66	63	65	72	70	71	60	62	61	69	70	70	67
		HKW	41	32	37	57	54	56	53	58	56	57	56	57	51
		SMK	86	79	83	58	60	59	98	93	96	87	88	88	81
		O	-	48	48	48	48	48	49	-	49	-	53	53	49
		P	-	25	25	27	28	28	28	-	28	-	22	22	26
3	ISK I 2016-3	PS	269	291	280	286	297	291	278	246	262	278	249	264	274
	NRCG CS-435	D	103	107	105	112	117	115	112	115	114	105	105	105	110
		S	66	70	68	70	74	72	58	63	61	68	68	68	67
		HKW	47	34	41	50	52	51	49	56	53	61	58	60	51
		SMK	86	85	86	66	71	69	95	86	90	87	88	88	83
		O	-	48	48	47	50	49	48	-	48	-	50	50	49
		P	-	26	26	29	28	28	30	-	30	-	24	24	27
4	ISK I 2016-4	PS	291	297	294	275	292	284	241	261	251	286	286	286	279
	J 92	D	104	107	106	114	117	116	120	120	120	108	106	107	112
		S	68	68	68	67	71	69	72	72	72	71	70	71	70
		HKW	39	30	35	45	48	47	47	42	44	56	54	55	45
		SMK	87	84	86	56	66	61	92	83	88	90	89	90	81
		O	-	49	49	49	51	50	50	-	50	-	54	54	51
		P	-	24	24	26	27	27	28	-	28	-	24	24	26
5	ISK I 2016-5	PS	289	301	295	289	285	287	257	264	261	295	295	295	284
	CSMG 2010-28	D	116	111	114	117	118	118	114	117	116	102	101	102	112
		S	62	67	65	69	67	68	58	62	60	69	69	69	65
		HKW	33	32	33	41	42	42	39	50	45	53	52	53	43
		SMK	76	83	80	49	48	49	87	82	85	87	88	88	75
		O	-	47	47	49	51	50	48	-	48	-	52	52	49
		P	-	25	25	25	25	25	27	-	27	-	28	28	26
6	ISK I 2016-6	PS	280	297	288	285	286	286	252	291	272	281	272	276	280
	ICGV 07041	D	114	112	113	118	121	120	120	122	121	107	105	106	115
		S	69	71	70	72	73	73	60	64	62	70	69	70	69
		HKW	31	28	30	51	42	47	41	45	43	43	44	43	41
		SMK	81	85	83	77	65	71	88	95	92	88	89	89	84
		O	-	52	52	50	52	51	51	-	51	-	54	54	52
		P	-	28	28	28	28	28	28	-	28	-	22	22	27

S.N.	Entry	Trait	Bhubaneswar			Imphal			Kanke			Mohanpur			Pooled mean
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	
7	ISK I 2016-7	PS	277	307	292	58	296	177	137	276	207	307	280	293	242
	TG 81	D	112	110	111	119	120	120	112	117	115	112	110	111	114
		S	65	64	65	77	71	74	67	70	69	71	71	71	69
		HKW	22	27	25	48	43	46	46	58	52	39	40	40	40
		SMK	88	80	84	71	62	67	75	80	77	86	88	87	79
		O	-	49	49	53	50	51	50	-	50	-	54	54	51
		P	-	26	26	23	26	25	28	-	28	-	21	21	25
8	ISK I 2016-8	PS	275	291	283	293	295	294	275	293	284	129	234	182	261
	TCGS 1616	D	102	109	106	114	116	115	118	118	118	108	106	107	111
		S	64	73	69	79	76	78	58	67	63	70	70	70	70
		HKW	33	33	33	49	46	48	36	46	41	61	59	60	45
		SMK	90	85	88	77	72	75	93	91	92	90	91	91	86
		O	-	49	49	50	51	51	48	-	48	-	53	53	50
		P	-	26	26	27	28	27	27	-	27	-	22	22	26
9	ISK I 2016-9	PS	285	282	284	260	295	277	259	287	273	290	280	285	280
	GNH 804	D	113	113	113	118	122	120	121	123	122	113	110	112	117
		S	60	60	60	76	71	74	57	65	61	71	70	71	66
		HKW	35	34	35	55	51	53	50	69	60	57	56	57	51
		SMK	82	76	79	76	61	69	90	80	85	87	87	87	80
		O	-	48	48	50	50	50	48	-	48	-	49	49	49
		P	-	25	25	26	25	25	26	-	26	-	27	27	26
10	ISK I 2016-10	PS	280	290	285	151	287	219	185	282	234	275	266	271	252
	K 1789	D	115	112	114	122	127	125	120	123	122	103	101	102	115
		S	64	68	66	75	72	74	56	60	58	69	69	69	67
		HKW	34	31	33	36	38	37	41	56	49	39	42	41	40
		SMK	77	82	80	67	63	65	81	72	77	89	90	90	78
		O	-	51	51	52	52	52	49	-	49	-	48	48	50
		P	-	27	27	28	28	28	29	-	29	-	24	24	27
11	ISK I 2016-13	PS	306	287	297	307	307	307	278	243	261	292	245	269	283
	Dh 243	D	114	109	112	118	122	120	117	114	116	109	106	108	114
		S	67	59	63	74	74	74	72	71	72	71	71	71	70
		HKW	28	24	26	37	41	39	34	39	37	40	41	41	36
		SMK	83	75	79	57	71	64	86	94	90	88	87	88	80
		O	-	52	52	53	53	53	52	-	52	-	51	51	52
		P	-	27	27	26	27	27	29	-	29	-	22	22	26
12	ISK I 2016-14	PS	311	304	308	289	294	291	266	300	283	311	276	294	294
	Dh 256	D	111	113	112	118	122	120	120	121	121	105	104	105	114
		S	68	66	67	79	69	74	64	65	65	69	70	69	69
		HKW	30	29	30	44	39	42	35	36	36	45	43	44	38
		SMK	83	82	83	72	62	67	82	87	85	88	87	88	80
		O	-	50	50	51	51	51	49	-	49	-	52	52	51
		P	-	28	28	28	28	28	29	-	29	-	22	22	27
13	ISK I 2016-15	PS	322	302	312	303	291	297	278	268	273	199	230	214	274
	ICGV 07214	D	112	111	112	122	124	123	115	118	117	107	106	107	114
		S	64	67	66	77	71	74	66	65	66	68	70	69	68
		HKW	24	27	26	40	37	39	38	86	62	43	42	42	42
		SMK	81	81	81	66	66	66	82	41	61	89	89	89	74
		O	-	50	50	51	51	51	51	-	51	-	51	51	51
		P	-	27	27	26	26	26	29	-	29	-	27	27	27

S.N.	Entry	Trait	Bhubaneswar			Imphal			Kanke			Mohanpur			Pooled mean
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	
14	ISK I 2016-36	PS	303	289	296	278	300	289	271	300	286	301	245	273	286
	OG 52-1 (ZC)	D	105	110	108	114	117	116	118	120	119	110	110	110	113
		S	70	70	70	87	75	81	70	72	71	69	70	69	73
		HKW	33	33	33	42	45	44	39	39	39	47	45	46	40
		SMK	93	85	89	71	74	73	93	90	92	87	88	88	85
		O	-	49	49	50	51	51	49	-	49	-	51	51	50
		P	-	27	27	27	27	27	28	-	28	-	24	24	26
15	ISK I 2016-37	PS	274	288	281	273	311	292	236	271	254	288	258	273	275
	Girnar 3 (ZC)	D	110	113	112	115	116	116	118	117	118	112	110	111	114
		S	64	67	66	80	75	78	60	66	63	71	72	71	69
		HKW	25	28	27	43	44	44	33	35	34	45	46	45	37
		SMK	90	82	86	71	70	71	84	86	85	88	89	89	82
		O	-	47	47	49	50	50	47	-	47	-	50	50	48
		P	-	26	26	26	25	25	26	-	26	-	25	25	26
16	ISK I 2016-38	PS	282	285	283	272	288	280	215	273	244	211	241	226	258
	GPBD 5 (ZC)	D	112	111	112	120	116	118	122	119	121	108	107	108	114
		S	63	64	64	75	73	74	54	61	58	70	71	71	66
		HKW	26	25	26	39	44	42	34	41	37	44	45	45	37
		SMK	77	78	78	63	70	67	89	87	88	89	91	90	80
		O	-	50	50	50	51	51	50	-	50	-	50	50	50
		P	-	28	28	26	26	26	26	-	26	-	22	22	26
17	ISK I 2016-39	PS	277	304	291	297	303	300	250	271	261	291	251	271	281
	R 2001-2 (ZC)	D	104	111	108	114	124	119	120	121	121	110	109	110	114
		S	70	63	67	74	70	72	70	70	70	70	70	70	70
		HKW	26	27	27	37	35	36	36	39	38	43	44	44	36
		SMK	87	80	84	55	65	60	87	86	86	88	90	89	80
		O	-	48	48	50	51	51	49	-	49	-	48	48	49
		P	-	26	26	25	23	24	26	-	26	-	25	25	25
Final plant stand (000/ha)															
	G.M		288	294	291	263	294	279	245	276	260	269	260	264	274
	S.E. Diff. Mean		7.2	13.4	10.8	15.1	10.8	13.1	20.2	18.1	19.2	15.6	8.2	12.5	14.3
	CD at 5%		14.5	NS	21.5	30.3	NS	26.2	40.6	NS	38.4	31.4	16.6	25.0	27.9
	CV %		3.5	6.5	5.2	8.1	5.2	6.7	11.7	9.3	10.4	8.2	4.5	6.7	7.4

ZONE V

Table 17a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Pod yield (kg/ha)

S.N.	Entry	Dharwad			Raichur			Hiriyur			Tirupati			Jagtial			Vriddhachalam			Tindivanam			Pooled mean	R
		2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean		
1	ISK I 2016-1	3653	1933	2793	5975	4106	5040	2966	2818	2892	2463	2873	2668	2964	3449	3207	1998	1706	1852	2106	3478	2792	3035	4
	RHRG 1344																							
2	ISK I 2016-2	2734	1816	2275	3292	3645	3468	1971	1886	1928	2025	1998	2011	2207	2141	2174	1823	1267	1545	844	3551	2197	2228	10
	J 93																							
3	ISK I 2016-3	2477	1600	2038	1452	1828	1640	1806	1751	1778	1688	1402	1545	1075	1435	1255	1916	1463	1689	1116	2921	2018	1709	16
	NRCG CS-435																							
4	ISK I 2016-4	3885	1979	2932	2109	2121	2115	2612	2490	2551	1713	1749	1731	1926	2257	2091	1513	1540	1526	942	2994	1968	2131	12
	J 92																							
5	ISK I 2016-5	1552	1114	1333	1764	3301	2533	2087	2054	2070	1917	1608	1763	1621	2297	1959	1793	1660	1726	1241	3118	2179	1938	14
	CSMG 2010-28																							
6	ISK I 2016-6	3992	2358	3175	2287	2597	2442	2710	2519	2614	2969	4072	3520	3516	5700	4608	3328	2652	2990	1969	3113	2541	3127	2
	ICGV 07041																							
7	ISK I 2016-7	2661	1475	2068	3969	3666	3818	1014	1017	1016	1317	1810	1563	650	2512	1581	922	1372	1147	299	3516	1907	1871	15
	TG 81																							
8	ISK I 2016-8	3574	1568	2571	4027	3691	3859	2425	2318	2372	2555	1859	2207	1567	2587	2077	2393	2215	2304	1510	3756	2633	2575	8
	TCGS 1616																							
9	ISK I 2016-9	3381	956	2168	2733	3270	3002	2512	2394	2453	2725	2703	2714	2713	2824	2768	2148	1856	2002	2021	3489	2755	2552	9
	GNH 804																							
10	ISK I 2016-10	3188	2519	2853	3797	3803	3800	2253	2199	2226	2891	3421	3156	2609	5353	3981	2109	2745	2427	1012	3115	2063	2929	6
	K 1789																							
11	ISK I 2016-13	3497	1831	2664	1195	2341	1768	2803	2641	2722	2369	3046	2707	1711	1360	1536	1508	910	1209	862	2495	1678	2041	13
	Dh 243																							
12	ISK I 2016-14	4220	2127	3174	3333	4005	3669	2960	2856	2908	3304	4240	3772	3798	5862	4830	3094	2992	3043	2248	4204	3226	3517	1
	Dh 256																							
13	ISK I 2016-15	3416	2342	2879	5781	4648	5214	2333	2251	2292	2456	2971	2713	2907	4103	3505	1911	2521	2216	2014	2558	2286	3015	5
	ICGV 07214																							
14	ISK I 2016-39	3890	2294	3092	4891	4141	4516	3410	3208	3309	2708	2545	2626	2900	4352	3626	2659	2133	2396	1295	2685	1990	3079	3
	R 2001-2 (ZC)																							
15	ISK I 2016-40	3948	2198	3073	2399	3715	3057	2406	2339	2373	2264	2640	2452	1644	1244	1444	1087	930	1008	1174	2586	1880	2184	11
	GPBD 4 (ZC)																							
16	ISK I 2016-41	4121	1932	3026	2471	3492	2981	3803	3294	3548	2453	2537	2495	2719	3878	3298	2234	2434	2334	1283	3347	2315	2857	7
	R 2001-3 (ZC)																							
	GM	3387	1878	2632	3217	3398	3308	2504	2377	2441	2363	2592	2478	2283	3210	2746	2027	1900	1963	1371	3183	2277	2549	
	S.E. Diff. Mean	425.0	245.7	347.1	450.1	299.9	382.4	311.8	255.1	284.6	260.6	292.4	276.9	150.0	217.8	187.0	246.6	165.6	210.0	65.2	192.5	143.7	217.1	
	CD 5%	855.9	494.8	693.8	906.5	604.0	764.4	628.1	513.8	NS	524.8	589.0	553.6	302.2	438.7	373.8	496.6	333.5	419.8	131.3	387.7	287.2	425.5	
	CV%	17.7	18.5	18.7	19.8	12.5	16.4	17.6	15.2	16.5	15.6	16.0	15.8	9.3	9.6	9.6	17.2	12.3	15.1	6.7	8.6	8.9	15.2	

Table 17b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Kernel yield (kg/ha)

S.N.	Entry	Dharwad			Raichur			Hiriyur			Tirupati			Jagtial			Vriddhachalam			Tindivanam			Pooled	R
		2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	mean	
1	ISK I 2016-1	2556	1332	1944	3614	2918	3266	2182	2085	2133	1570	1875	1723	1969	2161	2065	1215	1090	1153	1476	2449	1963	2035	4
	RHRG 1344																							
2	ISK I 2016-2	2052	1286	1669	2052	2543	2298	1439	1441	1440	1140	1298	1219	1417	1194	1305	1098	845	972	561	2383	1472	1482	11
	J 93																							
3	ISK I 2016-3	1932	1151	1542	911	1228	1070	1246	1323	1284	1000	929	964	648	906	777	1133	999	1066	773	2045	1409	1159	16
	NRCG CS-435																							
4	ISK I 2016-4	2910	1374	2142	1368	1475	1421	1882	1801	1841	1006	1203	1105	1217	1399	1308	952	987	970	699	2026	1362	1450	12
	J 92																							
5	ISK I 2016-5	1116	770	943	953	2308	1631	1463	1540	1501	1110	1115	1112	898	1364	1131	1100	1084	1092	827	2155	1491	1272	14
	CSMG 2010-28																							
6	ISK I 2016-6	2766	1655	2211	1437	1847	1642	1822	1892	1857	1788	2759	2274	2354	3457	2905	2098	1824	1961	1423	2275	1849	2100	2
	ICGV 07041																							
7	ISK I 2016-7	1974	1041	1507	2385	2585	2485	751	760	755	754	1238	996	394	1488	941	434	771	602	201	2466	1333	1231	15
	TG 81																							
8	ISK I 2016-8	2847	1189	2018	2406	2583	2495	1652	1745	1698	1772	1374	1573	1133	1633	1383	1715	1493	1604	1110	2779	1945	1817	8
	TCGS 1616																							
9	ISK I 2016-9	2370	629	1499	1779	2309	2044	1745	1733	1739	1618	1959	1788	1636	1638	1637	1258	1219	1239	1308	2540	1924	1696	9
	GNH 804																							
10	ISK I 2016-10	2079	1720	1899	2298	2679	2488	1562	1652	1607	1744	2346	2045	1535	3102	2318	1288	1781	1535	694	2061	1377	1896	7
	K 1789																							
11	ISK I 2016-13	2788	1273	2031	708	1657	1182	2034	1992	2013	1427	2209	1818	959	739	849	640	573	607	571	1676	1123	1375	13
	Dh 243																							
12	ISK I 2016-14	2934	1501	2218	2116	2843	2479	2180	2162	2171	2085	3007	2546	2475	3648	3061	1946	1968	1957	1674	2974	2324	2394	1
	Dh 256																							
13	ISK I 2016-15	2556	1657	2106	3790	3183	3486	1545	1640	1592	1530	2121	1826	1854	2443	2148	1178	1669	1423	1449	1688	1568	2021	5
	ICGV 07214																							
14	ISK I 2016-39	2912	1600	2256	3081	2766	2923	2497	2360	2429	1611	1818	1715	1531	2736	2133	1695	1439	1567	867	1906	1386	2058	3
	R 2001-2 (ZC)																							
15	ISK I 2016-40	3156	1545	2350	1682	2663	2172	1706	1745	1725	1314	1903	1609	970	632	801	532	562	547	808	1763	1285	1499	10
	GPBD 4 (ZC)																							
16	ISK I 2016-41	3092	1351	2221	1479	2473	1976	2843	2478	2661	1535	1790	1662	1647	2227	1937	1436	1515	1475	877	2351	1614	1935	6
	R 2001-3 (ZC)																							
	GM	2502	1317	1910	2004	2379	2191	1784	1772	1778	1438	1809	1623	1415	1923	1669	1232	1239	1235	957	2221	1589	1714	
	S.E. Diff. Mean	313.4	174.8	253.7	322.7	212.4	273.6	250.4	191.5	222.9	171.9	204.9	189.1	112.6	156.6	136.4	151.1	111.0	132.5	43.8	134.5	100.0	196.6	
	CD 5%	631.2	352.1	507.2	650.0	427.7	546.9	504.3	385.8	NS	346.1	412.8	378.0	226.8	315.5	272.6	304.3	223.5	264.9	88.2	270.9	199.9	385.4	
	CV%	17.7	18.8	18.8	22.8	12.6	17.6	19.8	15.3	17.7	16.9	16.0	16.5	11.3	11.5	11.6	17.3	12.7	15.2	6.5	8.6	8.9	16.2	

Table 17c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Ancillary traits

S. N.	Entry	Trait	Dharwad			Raichur			Hiriyur			Tirupati			Jagtial			Vriddhachalam			Tindivanam			Pooled mean
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	
1	ISK I 2016-1	PS	168	198	183	222	220	221	174	216	195	282	243	263	302	256	279	231	153	192	278	314	296	233
	RHRG 1344	D	108	115	112	118	116	117	127	117	122	126	110	118	102	107	104	110	102	106	117	106	112	113
		S	70	69	70	61	71	66	84	74	79	64	66	65	67	63	65	60	64	62	70	70	70	68
		HKW	33	26	30	31	34	33	38	48	43	22	31	27	19	26	22	25	29	27	31	39	35	31
		SMK	93	93	93	94	94	94	-	86	86	72	86	79	82	92	87	73	68	70	93	91	92	86
		O	48	50	49	48	50	49	48	-	48	49	48	48	48	48	48	48	50	49	53	49	51	49
		P	28	27	27	27	30	28	28	-	28	25	29	27	26	28	27	27	28	28	26	29	28	27
2	ISK I 2016-2	PS	151	149	150	220	220	220	154	204	179	237	230	234	322	300	311	241	116	179	242	249	245	217
	J 93	D	105	115	110	117	112	115	127	116	122	126	110	118	103	108	105	90	96	93	116	109	113	111
		S	75	71	73	62	70	66	85	76	81	57	65	61	64	56	60	60	67	63	66	67	67	67
		HKW	60	39	50	29	34	31	45	48	47	32	46	39	34	38	36	47	40	44	44	62	53	43
		SMK	97	97	97	94	93	93	-	90	90	80	88	84	91	91	91	80	83	82	96	88	92	90
		O	48	48	48	47	48	48	49	-	49	47	48	48	49	48	49	48	51	50	51	49	50	49
		P	28	26	27	26	29	28	26	-	26	27	28	28	24	27	25	26	26	26	26	29	28	27
3	ISK I 2016-3	PS	138	174	156	218	220	219	169	239	204	288	209	249	259	306	283	205	152	179	299	231	265	222
	NRCG CS-435	D	105	112	109	115	104	109	127	115	121	126	110	118	102	107	104	95	96	96	116	108	112	110
		S	78	72	75	63	67	65	80	75	78	60	66	63	61	64	62	59	68	64	69	70	70	68
		HKW	65	41	53	34	30	32	33	45	39	33	41	37	33	45	39	44	45	45	51	59	55	43
		SMK	97	99	98	93	93	93	-	85	85	83	86	85	92	95	94	77	80	78	94	93	93	89
		O	47	48	48	47	47	47	51	-	51	49	49	49	51	49	50	48	52	50	51	47	49	49
		P	30	25	27	26	27	27	28	-	28	28	28	28	24	28	26	27	27	27	27	28	28	27
4	ISK I 2016-4	PS	211	184	198	216	220	218	176	209	192	267	183	225	268	304	286	168	134	151	273	240	256	218
	J 92	D	106	112	109	115	110	113	127	115	121	123	110	117	102	109	105	90	96	93	116	106	111	110
		S	75	69	72	65	69	67	82	73	77	58	69	64	63	62	63	63	64	64	74	68	71	68
		HKW	55	35	45	41	41	41	33	39	36	27	44	36	33	34	34	41	36	39	42	54	48	40
		SMK	98	94	96	95	96	96	-	84	84	81	90	86	92	93	92	73	76	74	94	89	92	88
		O	50	49	49	48	49	48	50	-	50	49	50	50	52	50	51	49	53	51	52	50	51	50
		P	27	27	27	27	28	27	27	-	27	27	28	28	24	27	25	26	26	26	26	27	27	27
5	ISK I 2016-5	PS	152	167	160	219	220	220	157	198	178	279	200	240	315	319	317	309	169	239	281	238	260	230
	CSMG 2010-28	D	106	115	111	118	110	114	127	116	121	123	110	117	102	108	105	105	105	105	117	108	113	112
		S	72	69	70	54	70	62	80	75	78	58	70	64	56	59	58	61	65	63	67	69	68	66
		HKW	47	33	40	25	25	25	48	46	47	27	45	36	30	30	30	39	38	39	39	51	45	37
		SMK	93	92	93	93	93	93	-	85	85	73	87	80	88	90	89	67	71	69	98	73	85	85
		O	49	51	50	48	51	50	51	-	51	49	51	50	48	48	48	48	51	50	51	50	50	50
		P	26	25	25	25	29	27	28	-	28	26	27	26	23	26	25	25	25	25	25	27	26	26

S. N.	Entry	Trait	Dharwad			Raichur			Hiriyur			Tirupati			Jagtial			Vriddhachalam			Tindivanam			Pooled mean
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	
6	ISK I 2016-6	PS	225	187	206	219	218	219	178	211	194	292	255	274	299	314	306	310	185	248	277	244	260	244
	ICGV 07041	D	109	115	112	116	112	114	127	117	122	126	110	118	105	107	106	110	102	106	120	108	114	113
		S	69	70	70	63	71	67	84	75	79	60	68	64	67	61	64	63	69	66	72	73	73	69
		HKW	36	29	33	33	30	31	42	44	43	27	35	31	28	34	31	38	37	38	52	47	49	37
		SMK	89	94	91	92	94	93	-	83	83	77	85	81	87	92	90	68	81	75	90	98	94	87
		O	52	50	51	47	49	48	54	-	54	51	52	51	52	51	51	51	53	52	52	51	52	51
		P	28	25	26	26	27	26	27	-	27	28	28	28	25	27	26	27	27	27	27	28	28	27
7	ISK I 2016-7	PS	181	187	184	223	220	222	178	229	203	159	205	182	205	280	242	142	100	121	95	297	196	193
	TG 81	D	108	110	109	113	105	109	127	118	123	123	110	117	103	108	106	95	96	96	125	107	116	111
		S	74	70	72	60	71	65	81	75	78	57	69	63	61	59	60	58	56	57	67	70	69	66
		HKW	45	33	39	29	26	27	36	40	38	28	39	34	28	35	31	37	34	36	37	40	38	35
		SMK	96	96	96	93	94	94	-	87	87	66	87	77	88	92	90	62	73	67	80	88	84	85
		O	48	52	50	47	49	48	49	-	49	48	50	49	49	49	49	48	51	50	51	53	52	50
		P	27	27	27	25	29	27	28	-	28	27	28	27	25	28	26	26	26	26	27	26	26	27
8	ISK I 2016-8	PS	216	154	185	222	219	220	170	205	187	267	217	242	281	274	278	263	244	254	289	255	272	234
	TCGS 1616	D	108	115	112	116	108	112	127	116	122	123	110	117	103	111	107	95	96	96	116	106	111	111
		S	81	76	78	60	70	65	79	75	77	70	74	72	72	64	68	72	67	70	74	74	74	72
		HKW	55	35	45	24	29	26	49	48	48	37	43	40	35	41	38	45	42	44	41	58	49	41
		SMK	97	94	96	96	93	94	-	80	80	89	91	90	90	96	93	88	82	85	97	92	95	90
		O	49	50	49	47	49	48	50	-	50	48	49	49	52	50	51	48	51	50	52	49	50	49
		P	28	26	27	24	27	26	28	-	28	28	28	28	24	28	26	27	26	27	27	29	28	27
9	ISK I 2016-9	PS	194	165	179	216	219	217	155	177	166	271	221	246	325	314	320	237	251	244	275	296	286	237
	GNH 804	D	110	115	113	112	106	109	127	115	121	126	110	118	108	107	108	110	105	108	118	108	113	113
		S	70	66	68	65	71	68	70	72	71	59	73	66	60	58	59	59	66	62	65	73	69	66
		HKW	53	33	43	39	38	38	61	53	57	31	52	42	27	33	30	51	40	46	50	65	57	45
		SMK	95	93	94	95	93	94	-	89	89	80	91	86	88	92	90	76	83	80	97	92	94	89
		O	49	49	49	49	49	49	50	-	50	48	50	49	48	47	47	51	50	51	51	49	50	49
		P	25	24	25	25	28	27	27	-	27	26	27	26	22	25	23	24	24	24	25	28	26	25
10	ISK I 2016-10	PS	221	173	197	220	221	220	157	193	175	264	245	255	306	264	285	219	278	249	138	257	197	225
	K 1789	D	110	115	113	111	105	108	127	118	122	126	110	118	106	108	107	110	105	108	119	107	113	113
		S	65	68	67	60	71	65	76	75	76	60	69	65	59	58	59	61	65	63	69	66	67	66
		HKW	32	29	31	27	27	27	29	41	35	24	32	28	23	29	26	33	32	33	32	40	36	31
		SMK	85	92	88	95	93	94	-	90	90	76	85	81	86	92	89	72	76	74	96	96	96	87
		O	52	52	52	49	49	49	52	-	52	50	52	51	51	50	51	51	52	52	54	51	52	51
		P	28	27	28	24	27	26	27	-	27	28	30	29	26	28	27	26	28	27	26	29	28	27
11	ISK I 2016-13	PS	235	187	211	221	222	222	132	161	146	305	245	275	315	238	276	310	90	200	297	236	266	228
	Dh 243	D	110	112	111	111	111	111	127	117	122	123	110	117	106	108	107	105	96	101	117	108	113	111
		S	80	70	75	60	71	65	85	76	80	60	73	67	55	55	55	43	63	53	66	67	67	66
		HKW	38	25	31	41	36	38	41	43	42	25	35	30	18	26	22	26	30	28	29	42	35	32
		SMK	95	90	93	93	93	93	-	90	90	74	86	80	79	86	82	58	63	61	88	82	85	83
		O	52	52	52	48	49	48	50	-	50	50	52	51	51	49	50	48	53	51	54	51	52	51
		P	28	26	27	27	29	28	27	-	27	28	29	28	24	26	25	25	25	25	24	27	26	27

S. N.	Entry	Trait	Dharwad			Raichur			Hiriyur			Tirupati			Jagtial			Vriddhachalam			Tindivanam			Pooled mean
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	
12	ISK I 2016-14	PS	230	199	215	219	220	220	166	204	185	313	292	303	289	226	258	300	234	267	246	247	246	242
	Dh 256	D	109	110	110	112	114	113	127	115	121	126	110	118	107	109	108	110	103	107	118	108	113	113
		S	70	71	70	63	71	67	89	76	82	63	71	67	65	62	64	64	66	65	74	71	73	70
		HKW	38	34	36	36	39	37	40	41	41	27	38	33	26	33	29	37	36	37	38	49	43	36
		SMK	93	89	91	94	94	94	-	89	89	80	85	83	81	92	86	61	75	68	93	98	95	87
		O	50	51	51	48	49	48	51	-	51	49	51	50	50	50	50	48	53	51	52	52	52	50
		P	28	28	28	24	28	26	28	-	28	28	30	29	26	28	27	27	28	28	26	27	27	28
13	ISK I 2016-15	PS	196	149	173	219	220	220	170	225	197	295	227	261	315	292	304	278	222	250	270	274	272	239
	ICGV 07214	D	108	115	112	113	113	113	127	118	122	123	110	117	106	110	108	110	103	107	119	107	113	113
		S	75	71	73	66	68	67	85	73	79	62	72	67	64	60	62	62	66	64	72	66	69	69
		HKW	38	30	34	29	26	28	35	41	38	24	35	30	24	30	27	35	32	34	31	50	40	33
		SMK	93	91	92	94	93	93	-	85	85	72	82	77	88	93	90	66	64	65	81	96	88	84
		O	52	49	50	51	51	51	51	-	51	50	51	50	50	50	50	49	52	51	52	52	52	51
		P	27	25	26	25	29	27	28	-	28	27	27	27	24	26	25	25	25	25	25	26	26	26
14	ISK I 2016-39	PS	247	197	222	220	220	220	164	210	187	258	219	239	300	299	300	288	243	266	320	241	281	245
	R 2001-2 (ZC)	D	107	115	111	112	111	111	127	117	122	123	110	117	106	108	107	95	102	99	120	109	115	112
		S	75	70	72	62	67	65	86	74	80	60	72	66	53	63	58	64	67	66	67	71	69	68
		HKW	39	28	33	28	26	27	49	42	45	25	33	29	21	30	25	35	32	34	33	42	37	33
		SMK	92	94	93	94	94	94	-	81	81	78	87	83	85	90	87	62	68	65	96	91	93	85
		O	50	49	49	50	51	50	50	-	50	48	49	48	48	47	47	49	49	49	51	49	50	49
		P	25	23	24	27	30	28	26	-	26	26	26	26	23	26	24	27	24	26	25	24	24	25
15	ISK I 2016-40	PS	221	189	205	216	221	219	131	161	146	293	223	258	286	296	291	288	95	192	310	243	277	227
	GPBD 4 (ZC)	D	106	110	108	113	113	113	127	115	121	126	110	118	107	110	108	105	98	102	117	106	112	112
		S	80	70	75	70	72	71	73	75	74	58	72	65	59	51	55	48	60	54	69	68	69	66
		HKW	37	23	30	35	33	34	29	35	32	23	32	28	19	22	20	28	28	28	32	42	37	30
		SMK	95	88	92	94	93	93	-	88	88	78	86	82	79	85	82	60	47	53	94	77	86	82
		O	52	53	52	49	50	49	52	-	52	50	52	51	52	50	51	48	52	50	54	53	54	51
		P	28	27	28	27	29	28	29	-	29	27	29	28	23	27	25	26	25	26	25	26	25	27
16	ISK I 2016-41	PS	193	209	201	219	219	219	154	197	176	251	227	239	291	271	281	246	169	208	238	258	248	224
	R 2001-3 (ZC)	D	107	112	110	118	110	114	127	118	123	123	110	117	105	107	106	105	105	105	120	109	115	113
		S	75	70	73	60	71	65	88	75	82	62	71	67	61	58	59	64	63	63	68	70	69	68
		HKW	41	26	34	25	24	25	51	47	49	24	33	29	24	28	26	36	30	33	32	42	37	33
		SMK	94	90	92	92	92	92	-	84	84	76	82	79	92	95	93	63	67	65	95	93	94	86
		O	50	49	49	49	52	51	50	-	50	48	49	49	48	47	48	47	49	48	50	49	50	49
		P	25	24	25	26	29	27	25	-	25	26	26	26	22	26	24	25	24	25	24	24	24	25
Final plant stand (000/ha)																								
	G.M		199	179	189	219	220	220	162	202	182	270	228	249	292	285	289	252	177	215	258	257	258	229
	S.E. Diff. Mean		21.7	20.2	21.0	3.4	1.7	2.7	17.3	18.5	17.9	18.6	19.7	19.2	9.3	20.2	15.7	24.4	22.2	23.3	11.6	8.5	10.1	17.0
	CD at 5%		43.8	NS	41.9	NS	NS	5.4	NS	37.3	NS	37.5	39.7	38.3	18.7	40.6	31.3	49.2	44.7	46.6	23.3	17.1	20.3	33.4
	CV %		15.5	15.9	15.7	2.2	1.1	1.7	15.2	12.9	14.0	9.8	12.3	10.9	4.5	10.0	7.7	13.7	17.7	15.4	6.3	4.7	5.6	10.5

Initial Varietal Trial (IVT stage-I & II Pooled)
Habit Group: Virginia (Virginia Runner & Virginia Bunch)

There were eight test genotypes in this trial. The trial was allotted to 19 centres located across four zones (excluding zone III where Virginia genotypes are not grown). All the 19 centres have conducted the trial for over two years and reported the data. The zone and centre-wise results are presented below (**Tables 18a through 21c**). Whenever, either the coefficient of variation exceeded 25% in a particular location over two years or the mean yield of the location fell below 1462 kg/ha (triennial national average of *kharif season*, 2015 to 2017) the data could not be included in the pooled analysis.

Zone I

There were five locations in this zone, Mainpuri (Uttar Pradesh), Durgapura, Bikaner (Rajasthan) Ludhiana (Punjab) and Bawal (Haryana). The eight check varieties used in this zone were Girnar-2 (ZC), GG 21 (ZC), HNG 69, HNG 123 (ZC), CSMG 9510 (ZC), CSMG 2003-19, Raj Mungfali-1, 3 (ZC) and Raj Mungfali-3 (ZC). The Coefficient of variation (CV%) was about 11% both for pod and kernel yield and the CV% was well within the limits in three locations. At Bikaner centre, the CV% was 33% in the second year and the plant stand was very marginal (<100000) at Bikaner. Hence, the data of Bikaner centre could not be included in the pooled analysis. The centre-wise results are presented below (**Tables 18a through 18c**).

Mainpuri
In this location, the mean pod and kernel yield of the genotypes over two years were low (1668 kg/ha and 1172 kg/ha respectively). Over the two test years the zonal check, Utkarsh was the best check of this centre for pod (2065 kg/ha) and CSMG 2003-19 was the best for kernel (1553 kg/ha). Over two years the test genotype, K 1800 exhibited significant pod (2293 kg/ha) yield and for kernel yield (1605 kg/ha) it remained at par with over the best check Utkarsh (ZC).

Durgapura
The mean pod (3771 kg/ha) and kernel (2635 kg/ha) yield over two years were very high at this centre. Over two years, the zonal check variety, Rajmungfali-1 (ZC) was the best for pod (4537 kg/ha) and kernel yield (3313 kg/ha) yield and surpassed the all the test entries. Among the test genotypes, RG 625 was the best for pod (4261 kg/ha) and kernel yield (3047 kg/ha).

Bikaner
The mean pod (2713 kg/ha) and kernel (1572 kg/ha) yield over two years were high in this centre. Over two years, the zonal check variety, Rajmungfali-1 (ZC) was the best for pod (3309kg/ha) and kernel (1887 kg/ha) yield and surpassed all the test genotypes. Among the test genotypes, RTNG 29 was found the best for pod (2845 kg/ha) and kernel (1609 kg/ha) yield.

Ludhiana
The mean pod (2312 kg/ha11) and kernel (1559 kg/ha) yield over two years were moderate at this centre. Over two years, Utkarsh was the best for pod (3074 kg/ha) and kernel yield (2129 kg/ha) and out-yielded the other test genotypes and checks. Among the test genotypes, JSSP-57 was the best for pod (3052 kg/ha) and kernel (2061 kg/ha) yield.

Bawal
The mean pod (1980 kg/ha) and kernel (1290 kg/ha) yield over two years were moderate at this centre. Over two years, CSMG -19 was the best for pod (2570 kg/ha) and kernel yield (1665 kg/ha). Among the test genotypes, JSSP-57 was the best for pod (2879 kg/ha) and kernel (1923 kg/ha) yield and out-yielded the other test genotypes and the best check for both pod and kernel yield.

Zonal Mean Performances
The mean pod (2443 kg/ha) and kernel (1664 kg/ha) yield over two years were moderate in this zone. Across the four locations and over two years, the zonal check, Rajmungfali-1 was the best for pod (2915 kg/ha) and kernel yield (2024 kg/ha) and out-yielded the other test genotypes and the checks for both pod and kernel yield. Among the test genotypes, JSSP 57 was the best for pod (2894 kg/ha) and kernel yield (1982 kg/ha).

Ancillary Observation
In all the test centres, the plant stand was very low. The genotypes matured around 125 days. Shelling outturn ranged from 66% (RG 625) to 69% in most test genotypes. The 100-seed weight was low (42/100 kernel) in RTNG 29 and high (69 g/100 kernel) in RG 559-3 followed by RG 625 (66 g/100 kernel). Oil content of all the genotypes was around 49% and ranged from 49% to 53%, the highest in K 1802, and GG 21. Protein content of all the genotypes was around 26%.

Conclusion
Across the four locations and over two years none of the test genotypes significantly surpassed the yield levels of the best check, Raj Munhphali-1 (ZC) and hence none deserves promotion to AVT.

Zone II

The trial was conducted by two centres, Junagadh and Amreli. Talod centre in Gujarat did not conduct the trial during the second year. The check varieties used were GG 20 (ZC), Somnath (ZC) and KDG 128(ZC) and KDG 123 (ZC). The centre-wise results are presented below (**Tables 19a through 19c**).

Junagadh
In this location, the mean pod (2082 kg/ha) and kernel yield (1389 kg/ha) of the genotypes over two years were high. Over the two test years among checks, KDG 128 (ZC) was the best check of this centre with a very high pod (2736 kg/ha) and kernel (1857 kg/ha) yield respectively and out-yielded all the other checks and test genotypes. Among the test genotypes, JSSP 57 was found the best for pod (2573 kg/ha) while for kernel yield, JSSP 56 was the best (1787 kg/ha).

Amreli
In this location, the mean pod and kernel yield of the genotypes over two years were high (2263 kg/ha and 1493 kg/ha respectively). The zonal check variety, KDG 123 was the best for pod (2807 kg/ha) and kernel (1912 kg/ha) yield over two years and out-yielded all the other checks and test genotypes. Among the test genotypes, JSSP 57 was found the best for pod (2706 kg/ha) and kernel yield (1776 kg/ha).

Zonal Mean Performances
The mean pod (2172 kg/ha) and kernel yields (1441 kg/ha) of the genotypes in this zone over two years were high. Across two locations and over two years, KDG 123 (ZC) was the best for pod (2723 kg/ha) and for kernel yield KDG 128 was the best (1856 kg/ha) and surpassed all the other check varieties and test genotypes. Among the test genotypes, JSSP 57 was the best for pod (2640 kg/ha) and kernel (1763 kg/ha) yield.

Ancillary Observation
The plant stand was very low in the two locations. The genotypes matured around 118-120 days. The shelling out turn was low (62%) in K 1800 and high (69%) in JSSP 56. The100-seed weight was low (31 g) in RTNG29 and high (54 g) in RG 625. Oil content was in the range of 49% to 52%, the highest being in (ZC) GG 20. Protein content was about 26% and highest being 29% in KDG 123 followed by 28% in KDG 128.

Conclusion
Across the two locations and over two years none of the test genotypes significantly surpassed the yield levels of the best checks, KDG 123 and KDG 128 (ZCs) and hence none deserves promotion to AVT.

Zone IV

There were four centres, (Kanke, Imphal, Mohanpur and Bhubaneswar) in this zone. The check varieties used were ICGS 76 (ZC) and BAU 13 (ZC), GJG 18 (ZC), KDG 123 and Rajmungfali-2 (ZC). The Coefficient of variation (CV%) was within limits in this zone for both for pod (11%) and kernel yield. The centre-wise results are presented below (**Tables 20a through 20c**).

Bhubaneswar
The average yields of entries and checks in this centre were 1890 kg of pod and 1169 kg of kernel per ha. Among the checks, GJG 18 (ZC) was the best (1933 kg of pod and 1167 kg of kernel per ha). Among the test genotypes, two and three test genotypes respectively exhibited significant superiority for pod and kernel yield over the best check GJG 18. The best among the test genotypes was JSSP 56 for pod (2299 kg/ha) and kernel (1471 kg/ha) yield. The other two were RTNG 29 and JSP 62.

Kanke
In this location, the mean pod and kernel yields of the genotypes over two years were moderate (1997 kg/ha and 1358 kg/ha respectively). The zonal check variety, BAU 13 was the best for pod (2299 kg/ha) whereas for kernel, GJG 18 was the best (1527 kg/ha) yield over two years. None of the test genotypes could significantly surpass the yield levels of these best checks. Among the test genotypes, RTNG 29 was the best for pod (2337 kg/ha) and kernel yield (1641 kg/ha) and remained at par with those of the best checks.

Imphal
In this location, the mean pod and kernel yields of the genotypes over two years were high (2812 kg/ha and 2031 kg/ha respectively). Among the check varieties, GJG 18 was the best for pod (2910 kg/ha) and for kernel Rajmunfali-2 was the best for kernel (2179 kg/ha) yield. Among the test genotypes, RTNG 29 was the best for pod (3248 kg/ha) and kernel yield (2322 kg/ha) and remained at par with those of the best check varieties.

Mohanpur
In this location, the mean pod and kernel yields of the genotypes over two years were moderate (2140 kg/ha and 1508 kg/ha respectively). Over two years, there were no significant difference between the test genotypes and check varieties for pod and kernel yields. Hence, the real genetic worth of these genotypes could not be assessed. Among zonal check varieties, GJG 18 was the best for pod (2758 kg/ha) and kernel (1965 kg/ha) yield. Among the test genotypes, JSP 63 was the best for pod (2996 kg/ha) and kernel (2134 kg/ha) yield.

Zonal Mean Performances
In this zone, the mean pod and kernel yields of the genotypes over two years were moderate (2210 kg/ha and 1516 kg/ha respectively). Across the four locations and over two years, the zonal check variety, GJG 18 was the best for pod (2455 kg/ha) and kernel (1683 kg/ha) yield. None of the test genotypes recorded significant higher pod and kernel yields over the best check. Among the test genotypes, RTNG 29 was the best for pod (2558 kg/ha) and kernel (1766 kg/ha) yield.

Ancillary Observation
The plant stand was very low at all the test locations. The test genotypes and checks matured around 120 days. Shelling outturn was low (64%) and high (70%) in Rajmungfali-2. The range for oil content observed was 48%-50%. Protein content ranged from 25%-28% highest in RTNG 29.

Conclusion
Across the four locations and over two years, none of the test genotypes significantly surpassed the yield levels of the best check, GJG 18 (ZC) and hence none deserves promotion to AVT.

Zone V

There were 8 centres in this zone. The check varieties used were ICGS 76, GG 16 (ZC), ICGV 00348 (ZC), KDG 123 and KDG 128. The Coefficient of variation (CV%) was 17% for pod and 19% kernel yields. The CV% at Vridhachalam centre over two years was 24.5% which exceeded the limit and hence the data of this centre was not included in the pooled analysis. The centre-wise results are presented below (**Tables 21a through 21c**).

Dharwad
In this location, the mean pod and kernel yields of the genotypes over two years were very high (3525 kg/ha and 2639 kg/ha respectively). Over two years, the zonal check variety, KDG 123 was the best for pod (4340 kg/ha) and kernel yield (3284 kg/ha). None of the test genotypes could significantly surpass the pod and kernel yield of this best check. Among the test genotypes, RTNG 29 was the best for pod (4443 kg/ha) and kernel (3305 kg/ha) yield.

Raichur
In this location, the mean pod and kernel yields of the genotypes over two years were high (2279 kg/ha and 1535 kg/ha respectively). Over two years, the zonal check variety, ICGS 76 was the best for pod (2221 kg/ha) and kernel yield (1519 kg/ha). None of the test genotypes could significantly surpass the pod and kernel yield of this best check. Among the test genotypes, RG 625 was the best (2426 kg/ha) for pod whereas JSP 62 was the best (1726 kg/ha) for kernel yield (1607 kg/ha).

Hiriyur
In this centre over two years the pod (2278 kg/ha) and kernel yield (1620 kg/ha) were moderate. Over two years, there were no significant difference between the test genotypes and check varieties for pod and kernel yields. The zonal check variety, KDG 128 was the best for pod (2741 kg/ha) and kernel yield (1982 kg/ha). Among the test genotypes, JSSP 57 was the best for pod (2689 kg/ha) and kernel yield (1888 kg/ha).

Vriddhachalam
In this centre over two years the pod (1634 kg/ha) and kernel yield (1044 kg/ha) were normal to the region. The CV% was around 25% and hence data of this centre was not included in the analysis. The zonal check variety, KDG 123 was the best for pod (2506 kg/ha) and kernel yield (1704 kg/ha). None of the test genotypes could significantly surpass the pod and kernel K 1802 was the best for pod (2142 kg/ha) yield and kernel (1274 kg/ha) yield.

Tindivanam
In this location, the mean pod and kernel yields of the genotypes over two years were moderate (2067 kg/ha and 1386 kg/ha respectively). The zonal check variety, KDG 123 was the best for pod (2156 kg/ha) and kernel yield (1492 kg/ha). Two test genotype, JSSP 57 (2633 kg/ha of pod; 1757 kg/ha of kernel); and RTNG 29 (2580 kg/ha of pod; 1808 kg/ha of kernel) could significantly surpass the pod and kernel yields of the best check.

Jagtial
In this centre over two years the pod (2436 kg/ha) and kernel yield (1519 kg/ha) were moderate. Over two years, the zonal check variety, KDG 123 was the best for pod (3666 kg/ha) and kernel yield (2653 kg/ha) and out yielded all the other genotypes. Among the test genotypes, RTNG 29 was the best for pod (3470 kg/ha) and kernel yield (2137 kg/ha).

Tirupati
In this location, the mean pod (2008 kg/ha) and kernel (1282 kg/ha) yields of the genotypes over two years were moderate. The zonal check variety, KDG 128 was the best for pod (2843 kg/ha) and KDG 123 was the best for kernel (1873 kg/ha) yield and surpassed the yield levels of the checks and test genotypes. Among the test genotypes, RTNG 29 was the best for pod (2649 kg/ha) and kernel yield (1726 kg/ha).

Digraj
In this location, the mean pod and kernel yields of the genotypes over two years were high (2460 kg/ha and 1646 kg/ha respectively). Over two years, the zonal check variety, KDG 128 was the best for pod (3325 kg/ha) and ICGV 00348 was the best for kernel yield (2178 kg/ha) and surpassed the yield levels of the checks and test genotypes. Among the test genotypes, RTNG 29 was the best for pod (3089 kg/ha) and kernel (1874 kg/ha) yield.

Zonal Mean Performances
In this zone, the mean pod and kernel yields of the genotypes over two years and seven locations were moderate (2397 kg/ha and 1641 kg/ha respectively). Across seven locations and over two years, the zonal check variety, KDG 128 was the best for pod (2934 kg/ha) and kernel (2012 kg/ha) yield and surpassed both the pod and kernel yields of the other check varieties and test genotypes. Among the test genotypes, RTNG 29 was the best for pod (2242 kg/ha) and kernel yield (1956 kg/ha).

Ancillary Observation

Plant stand was low in almost all the centres. The test genotypes and checks matured around 120 days. Shelling outturn was low (66%) in K 1800 and high (72%) in JSSP 56; followed (70%) ICGV 00348; RTNG 29, JSSP 57 and KDG 128(69%). The 100-seed weight was low in ICGV 00348 (36g) and high (54 g) in JSSP 56 and JSSP 57. Oil content ranged from 48%-53%, highest in ICGV 00348. Protein content ranged from 25%-28%, highest in KDG 123 and KDG 128.

Conclusion

None of the test genotypes could significantly surpass the yield levels of the best check, KDG 128 for pod as well as kernel yields. Hence, none deserve promotion to AVT.

ZONE I

Table 18a: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Pod yield (kg/ha)

S.N.	Entry	Mainpuri			Durgapura			Bikaner*			Ludhiana			Bawal			Pooled mean (4 ctrs)	R
		2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean		
1	IVK I 2016-1	1537	1245	1391	3467	2906	3186	3098	1444	2271	1316	2240	1778	1825	1512	1668	2006	15
	JSSP 56																	
2	IVK I 2016-2	1301	1576	1438	5083	3438	4261	2554	2924	2739	1383	2964	2173	1303	1978	1640	2378	8
	RG 625																	
3	IVK I 2016-3	1348	1655	1501	4268	4019	4143	2349	2824	2586	2319	3146	2732	1926	1545	1735	2528	6
	JSP 62																	
4	IVK I 2016-4	1182	1135	1158	4287	4068	4178	2982	2707	2845	2265	2979	2622	3062	3245	3154	2778	3
	RTNG 29																	
5	IVK I 2016-5	2206	2112	2159	3509	3046	3277	2976	1449	2212	2306	2720	2513	1308	1045	1176	2281	11
	JSP 63																	
6	IVK I 2016-6	1418	1434	1426	4564	3869	4217	3071	2428	2749	2568	3536	3052	2091	3667	2879	2894	2
	JSSP 57																	
7	IVK I 2016-7	2333	2254	2293	3929	3415	3672	2762	2071	2417	1164	1791	1477	1878	1556	1717	2290	10
	K 1800																	
8	IVK I 2016-8	1970	1087	1529	3687	2973	3330	2827	2306	2566	2257	3099	2678	1280	1356	1318	2214	14
	K 1802																	
9	IVK I 2016-10	1892	1261	1576	3609	3997	3803	2983	2887	2935	1624	2508	2066	1698	1645	1671	2279	12
	Girnar 2 (ZC)																	
10	IVK I 2016-11	1521	1891	1706	2898	3371	3135	4069	2210	3139	1108	1778	1443	1376	778	1077	1840	16
	GG 21 (ZC)																	
11	IVK I 2016-12	1458	1734	1596	3985	2973	3479	2831	1606	2219	1379	2486	1932	2121	2667	2394	2350	9
	HNG 69 (ZC)																	
12	IVK I 2016-13	2049	2081	2065	4145	2909	3527	2612	2257	2434	2620	3528	3074	2174	2334	2254	2730	4
	Utkarsh (ZC)																	
13	IVK I 2016-14	2207	2175	2191	3799	3432	3615	2542	3038	2790	1728	2836	2282	3018	2123	2570	2665	5
	CSMG 2003-19 (ZC)																	
14	IVK I 2016-15	1978	1576	1777	4674	4401	4537	3996	2622	3309	2462	3587	3025	2298	2345	2322	2915	1
	Raj Mungafali 1 (ZC)																	
15	IVK I 2016-16	1497	1481	1489	3915	3720	3817	2412	3974	3193	2128	3015	2571	2403	2023	2213	2523	7
	HNG 123 (ZC)																	
16	IVK I 2016-17	1537	1261	1399	4298	4027	4162	2996	3000	2998	1245	1909	1577	2025	1745	1885	2256	13
	Raj Mungafali-3 (ZC)																	
	G.M	1714	1622	1668	4007	3535	3771	2941	2484	2713	1867	2758	2312	1986	1973	1980	2433	
	S.E. Diff. Mean	84.8	56.0	71.9	325.0	231.2	282.0	171.6	580.2	427.8	136.3	266.3	211.5	118.0	123.9	121.0	189.8	
	CD at 5%	170.8	112.9	143.7	654.6	465.7	563.7	345.7	1168.6	855.2	274.4	536.4	NS	237.7	249.6	241.9	372.0	
	CV %	7.0	4.9	6.1	11.5	9.3	10.6	8.3	33.0	22.1	10.3	13.7	12.9	8.4	8.9	8.6	11.0	

* The centre not included in the overlocation analysis because of its high CV % for pod and kernel yield during kharif 2017

Table 18b: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Kernel yield (kg/ha)

S.N.	Entry	Mainpuri			Durgapura			Bikaner*			Ludhiana			Bawal			Pooled mean (4 ctrs)	R
		2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean		
1	IVK I 2016-1	1091	896	994	2600	1915	2257	1905	784	1344	911	1574	1242	1191	922	1056	1387	15
	JSSP 56																	
2	IVK I 2016-2	898	1073	985	3760	2334	3047	1614	1601	1607	849	1996	1422	893	1048	970	1606	9
	RG 625																	
3	IVK I 2016-3	963	1192	1078	2895	2761	2828	1419	1591	1505	1545	2088	1816	1248	960	1104	1706	7
	JSP 62																	
4	IVK I 2016-4	827	806	816	2967	2593	2780	1642	1576	1609	1584	1999	1791	2176	2147	2162	1887	4
	RTNG 29																	
5	IVK I 2016-5	1568	1500	1534	2603	1968	2285	1817	814	1315	1523	1836	1679	839	611	725	1556	11
	JSP 63																	
6	IVK I 2016-6	964	1005	984	3286	2631	2958	1737	1288	1513	1774	2348	2061	1442	2404	1923	1982	2
	JSSP 57																	
7	IVK I 2016-7	1609	1600	1605	2925	2184	2554	1773	1116	1444	773	1226	999	1282	972	1127	1571	10
	K 1800																	
8	IVK I 2016-8	1380	761	1070	2724	1900	2312	1672	1274	1473	1493	2123	1808	834	801	817	1502	14
	K 1802																	
9	IVK I 2016-10	1287	883	1085	2306	2806	2556	2039	1527	1783	1115	1665	1390	1181	1060	1120	1538	13
	Girnar 2 (ZC)																	
10	IVK I 2016-11	1065	1343	1204	2147	2254	2201	2583	1186	1884	750	1216	983	926	459	692	1270	16
	GG 21 (ZC)																	
11	IVK I 2016-12	991	1230	1110	2883	2010	2446	1740	791	1266	904	1646	1275	1430	1757	1594	1606	8
	HNG 69 (ZC)																	
12	IVK I 2016-13	1476	1498	1487	3036	1887	2462	1640	1232	1436	1747	2478	2112	1510	1472	1491	1888	3
	Utkarsh (ZC)																	
13	IVK I 2016-14	1562	1545	1553	2810	2322	2566	1806	1670	1738	1094	2004	1549	2049	1282	1665	1834	5
	CSMG 2003-19 (ZC)																	
14	IVK I 2016-15	1345	1103	1224	3558	3067	3313	2496	1278	1887	1652	2349	2001	1635	1486	1560	2024	1
	Raj Mungafali 1 (ZC)																	
15	IVK I 2016-16	1048	1051	1050	2795	2488	2642	1588	1920	1754	1418	2106	1762	1657	1234	1445	1725	6
	HNG 123 (ZC)																	
16	IVK I 2016-17	1060	882	971	3160	2753	2956	1772	1411	1591	804	1306	1055	1370	997	1184	1541	12
	Raj Mungafali-3 (ZC)																	
	G.M	1196	1148	1172	2903	2367	2635	1827	1316	1572	1246	1872	1559	1354	1226	1290	1664	
	S.E. Diff. Mean	64.8	41.6	54.5	235.8	153.5	198.9	161.6	309.8	247.1	100.3	179.6	145.4	81.2	78.8	80.4	132.4	
	CD at 5%	130.6	83.9	108.9	475.0	309.2	397.7	325.5	624.0	494.0	201.9	361.7	290.7	163.6	158.8	160.8	259.5	
	CV %	7.7	5.1	6.6	11.5	9.2	10.7	12.5	33.3	22.2	11.4	13.6	13.2	8.5	9.1	8.8	11.3	

* The centre not included in the overlocation analysis because of its high CV % for pod and kernel yield during kharif 2017

Table 18c: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED
Ancillary traits

S.N.	Entry	Trait	Mainpuri			Durgapura			Bikaner*			Ludhiana			Bawal			Pooled mean (4 ctrs)
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	
1	IVK I 2016-1	PS	137	139	138	151	149	150	113	79	96	121	124	123	98	88	93	126
	JSSP 56	D	126	124	125	130	129	130	-	-	-	128	126	127	127	125	126	127
		S	71	72	72	75	66	70	62	55	58	69	70	70	65	61	63	69
		HKW	50	52	51	71	64	67	-	-	-	39	57	48	59	50	55	55
		SMK	88	95	92	90	88	89	-	-	-	85	89	87	90	70	80	87
		O	50	50	50	50	50	50	-	-	-	53	53	53	49	-	49	50
		P	24	22	23	30	29	29	-	-	-	27	28	28	24	-	24	26
2	IVK I 2016-2	PS	139	140	139	141	146	144	97	111	104	93	123	108	98	97	97	122
	RG 625	D	128	125	127	127	128	128	-	-	-	125	123	124	125	124	125	126
		S	69	68	69	74	68	71	63	56	60	62	67	64	69	53	61	66
		HKW	45	47	46	94	76	85	-	-	-	63	69	66	74	58	66	66
		SMK	85	92	89	95	76	86	-	-	-	74	85	79	92	77	84	84
		O	49	49	49	52	51	51	-	-	-	54	52	53	52	-	52	51
		P	22	24	23	28	29	28	-	-	-	25	26	26	24	-	24	25
3	IVK I 2016-3	PS	134	139	136	143	137	140	104	93	98	98	131	114	99	76	87	120
	JSP 62	D	116	118	117	127	126	127	-	-	-	126	125	125	126	123	125	123
		S	72	72	72	68	69	68	61	57	59	67	66	66	65	62	64	67
		HKW	45	45	45	59	61	60	-	-	-	54	54	54	57	57	57	54
		SMK	88	94	91	85	92	89	-	-	-	90	88	89	87	84	85	88
		O	49	51	50	51	47	49	-	-	-	51	53	52	52	-	52	51
		P	25	21	23	29	28	28	-	-	-	28	28	28	25	-	25	26
4	IVK I 2016-4	PS	134	142	138	148	149	149	108	104	106	136	119	127	104	123	114	132
	RTNG 29	D	120	118	119	129	128	129	-	-	-	118	123	120	129	127	128	124
		S	70	71	71	69	64	66	55	58	57	70	67	69	71	66	69	69
		HKW	39	40	40	41	48	45	-	-	-	38	40	39	46	42	44	42
		SMK	86	92	89	87	91	89	-	-	-	86	86	86	84	78	81	86
		O	51	51	51	51	50	51	-	-	-	53	53	53	51	-	51	52
		P	25	24	25	29	30	30	-	-	-	29	28	28	27	-	27	27
5	IVK I 2016-5	PS	131	140	136	144	146	145	105	84	95	111	123	117	98	78	88	121
	JSP 63	D	119	121	120	128	129	129	-	-	-	118	121	120	126	124	125	123
		S	71	71	71	74	65	69	61	57	59	66	68	67	64	59	61	67
		HKW	46	48	47	61	55	58	-	-	-	49	52	51	50	51	51	52
		SMK	95	97	96	90	90	90	-	-	-	88	89	88	83	76	80	88
		O	51	51	51	50	50	50	-	-	-	53	54	53	53	-	53	52
		P	24	22	23	28	29	28	-	-	-	28	28	28	25	-	25	26
6	IVK I 2016-6	PS	134	139	136	148	139	144	113	119	116	187	151	169	102	87	95	136
	JSSP 57	D	127	122	125	130	130	130	-	-	-	124	127	125	131	127	129	127
		S	68	70	69	72	68	70	57	53	55	69	66	68	69	66	67	68
		HKW	38	40	39	58	58	58	-	-	-	45	47	46	50	52	51	48
		SMK	88	94	91	91	87	89	-	-	-	92	91	91	91	75	83	89
		O	45	49	47	49	48	48	-	-	-	53	52	52	50	-	50	49
		P	25	24	24	28	28	28	-	-	-	28	26	27	25	-	25	26
7	IVK I 2016-7	PS	139	139	139	152	139	146	116	93	104	135	132	133	101	63	82	125
	K 1800	D	118	119	119	128	128	128	-	-	-	125	126	125	128	124	126	124
		S	69	71	70	74	64	69	64	55	59	66	68	67	68	62	65	68
		HKW	43	47	45	48	45	46	-	-	-	38	43	41	44	40	42	43
		SMK	93	97	95	90	83	87	-	-	-	82	86	84	83	75	79	86
		O	49	49	49	52	50	51	-	-	-	54	53	54	52	-	52	51
		P	22	24	23	29	29	29	-	-	-	27	27	27	26	-	26	26
8	IVK I 2016-8	PS	135	142	138	141	139	140	118	97	108	143	119	131	101	65	83	123
	K 1802	D	124	122	123	127	126	127	-	-	-	124	127	126	128	123	126	125
		S	70	70	70	74	64	69	59	56	57	66	69	67	65	59	62	67
		HKW	34	39	37	50	50	50	-	-	-	37	42	40	47	44	46	43
		SMK	90	96	93	94	91	93	-	-	-	88	87	88	84	66	75	87
		O	50	53	51	51	51	51	-	-	-	55	55	55	53	-	53	53
		P	25	24	24	29	29	29	-	-	-	27	28	27	24	-	24	26

S.N.	Entry	Trait	Mainpuri			Durgapura			Bikaner*			Ludhiana			Bawal			Pooled mean (4 ctrs)
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	
9	IVK I 2016-10	PS	132	143	138	148	137	143	109	108	108	159	132	146	98	76	87	128
	Girnar 2 (ZC)	D	120	119	120	127	126	127	-	-	-	129	123	126	125	123	124	124
		S	68	70	69	64	70	67	69	53	61	69	67	68	70	64	67	68
		HKW	40	42	41	56	59	58	-	-	-	58	52	55	55	52	53	52
		SMK	94	98	96	89	90	90	-	-	-	78	86	82	84	73	78	86
		O	51	49	50	50	50	50	-	-	-	54	55	55	52	-	52	52
		P	22	23	22	27	28	28	-	-	-	26	24	25	24	-	24	25
10	IVK I 2016-11	PS	136	140	138	143	141	142	129	98	114	92	149	121	99	60	79	120
	GG 21 (ZC)	D	117	118	118	126	127	127	-	-	-	124	124	124	126	123	125	123
		S	70	71	71	74	67	71	64	53	58	68	68	68	67	59	63	68
		HKW	38	40	39	58	62	60	-	-	-	49	51	50	56	54	55	51
		SMK	89	95	92	91	93	92	-	-	-	87	85	86	79	78	79	87
		O	52	51	51	51	50	51	-	-	-	54	56	55	54	-	54	53
		P	23	23	23	28	28	28	-	-	-	27	27	27	24	-	24	25
11	IVK I 2016-12	PS	136	142	139	146	146	146	125	100	112	85	129	107	96	82	89	120
	HNG 69 (ZC)	D	124	122	123	128	128	128	-	-	-	123	122	123	128	126	127	125
		S	69	71	70	72	68	70	62	49	55	66	66	66	68	66	67	68
		HKW	42	42	42	56	53	54	-	-	-	48	53	50	61	60	61	52
		SMK	88	90	89	83	89	86	-	-	-	82	87	84	86	80	83	86
		O	49	47	48	50	51	50	-	-	-	51	55	53	52	-	52	51
		P	23	24	24	28	29	29	-	-	-	26	28	27	24	-	24	26
12	IVK I 2016-13	PS	131	143	137	142	138	140	113	124	118	183	130	157	100	80	90	131
	Utkarsh (ZC)	D	126	125	126	128	128	128	-	-	-	124	127	125	128	124	126	126
		S	72	72	72	73	65	69	63	55	59	67	70	68	70	63	66	69
		HKW	45	47	46	71	54	63	-	-	-	59	64	61	70	59	64	59
		SMK	95	97	96	84	89	87	-	-	-	87	89	88	88	83	85	89
		O	49	49	49	49	50	50	-	-	-	51	52	52	51	-	51	50
		P	23	22	22	28	28	28	-	-	-	27	26	26	24	-	24	25
13	IVK I 2016-14	PS	139	142	140	145	148	147	103	100	101	140	119	129	103	50	76	123
	CSMG 2003-19 (Z	D	116	118	117	126	126	126	-	-	-	123	120	121	126	124	125	122
		S	71	71	71	74	68	71	71	55	63	63	71	67	68	60	64	68
		HKW	46	47	47	67	65	66	-	-	-	55	56	55	60	58	59	57
		SMK	97	98	98	80	88	84	-	-	-	86	89	87	91	92	92	90
		O	49	50	50	51	50	50	-	-	-	54	53	53	51	-	51	51
		P	24	26	25	28	28	28	-	-	-	25	25	25	24	-	24	26
14	IVK I 2016-15	PS	134	140	137	143	142	143	111	119	115	184	121	152	104	85	95	132
	Raj Mungafali 1 (Z	D	120	120	120	129	130	130	-	-	-	122	125	123	129	126	128	125
		S	68	70	69	76	70	73	62	49	55	67	66	66	71	63	67	69
		HKW	40	40	40	58	64	61	-	-	-	49	52	50	61	55	58	52
		SMK	96	95	96	95	91	93	-	-	-	87	91	89	88	74	81	90
		O	50	49	49	50	49	50	-	-	-	52	54	53	51	-	51	51
		P	23	22	22	28	28	28	-	-	-	26	27	27	26	-	26	26
15	IVK I 2016-16	PS	137	137	137	145	149	147	103	114	108	118	143	130	100	79	89	126
	HNG 123 (ZC)	D	121	119	120	129	129	129	-	-	-	123	126	125	128	125	127	125
		S	70	71	71	71	67	69	66	48	57	67	70	68	69	61	65	68
		HKW	45	46	46	64	57	60	-	-	-	56	56	56	64	51	57	55
		SMK	89	94	92	95	91	93	-	-	-	83	85	84	79	79	79	87
		O	49	48	48	50	49	49	-	-	-	52	52	52	51	-	51	50
		P	23	22	22	29	28	28	-	-	-	27	28	27	25	-	25	26
16	IVK I 2016-17	PS	137	139	138	145	146	146	88	110	99	102	129	116	98	64	81	120
	Raj Mungafali-3 (Z	D	124	122	123	128	129	129	-	-	-	128	125	127	124	123	124	125
		S	69	70	70	74	68	71	59	47	53	64	68	66	68	57	63	67
		HKW	50	52	51	85	73	79	-	-	-	69	74	72	89	61	75	69
		SMK	90	96	93	90	87	89	-	-	-	79	85	82	79	88	83	87
		O	52	49	50	51	50	50	-	-	-	55	54	54	51	-	51	51
		P	21	22	22	28	28	28	-	-	-	26	26	26	27	-	27	26
Final plant stand (000/ha)																		
	GM		135	140	138	145	143	144	110	103	106	130	130	130	100	78	89	125
	S.E. Diff. Mean		3.3	2.3	2.8	6.0	3.7	5.0	8.4	18.2	14.2	12.5	4.0	9.3	3.9	4.6	4.2	5.9
	CD at 5%		NS	NS	NS	NS	7.5	NS	16.9	NS	NS	25.2	8.0	18.5	NS	9.3	8.5	11.5
	CV %		3.4	2.3	2.9	5.8	3.7	4.9	10.8	25.0	18.9	13.6	4.3	10.1	5.5	8.3	6.7	6.6

* The centre not included in the overlocation analysis because of its high CV % for pod and kernel yield during kharif 2017

ZONE II

Table 19a: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED Pod yield (kg/ha)

S.N.	Entry	Junagadh			Amreli			Pooled mean	R
		2016	2017	Mean	2016	2017	Mean		
1	IVK I 2016-1	2817	2075	2446	3848	1092	2470	2458	5
	JSSP 56								
2	IVK I 2016-2	2015	1303	1659	3976	1028	2502	2080	7
	RG 625								
3	IVK I 2016-3	2003	2129	2066	3195	1261	2228	2147	6
	JSP 62								
4	IVK I 2016-4	2640	2478	2559	3849	1210	2529	2544	4
	RTNG 29								
5	IVK I 2016-5	1888	1803	1845	3067	1143	2105	1975	8
	JSP 63								
6	IVK I 2016-6	2853	2293	2573	4375	1037	2706	2640	3
	JSSP 57								
7	IVK I 2016-7	1754	1764	1759	2847	753	1800	1779	10
	K 1800								
8	IVK I 2016-8	1411	1364	1387	3015	773	1894	1640	11
	K 1802								
9	IVK I 2016-18	1636	1648	1642	2142	812	1477	1559	12
	Somnath (ZC)								
10	IVK I 2016-19	1456	1882	1669	3096	781	1939	1804	9
	GG 20 (ZC)								
11	IVK I 2016-20	2754	2718	2736	3918	1473	2695	2716	2
	KDG 128 (ZC)								
12	IVK I 2016-21	2906	2373	2639	4016	1599	2807	2723	1
	KDG 123 (ZC)								
	G.M	2178	1986	2082	3445	1080	2263	2172	
	S.E. Diff. Mean	185.2	191.0	188.1	302.0	83.0	221.4	205.4	
	CD at 5%	376.7	388.6	376.2	614.4	168.8	442.8	402.6	
	CV %	12.0	13.6	12.8	12.4	10.9	13.8	13.4	

Table 19b: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED Kernel yield (kg/ha)

S.N.	Entry	Junagadh			Amreli			Pooled mean	R
		2016	2017	Mean	2016	2017	Mean		
1	IVK I 2016-1	2066	1507	1787	2725	665	1695	1741	4
	JSSP 56								
2	IVK I 2016-2	1379	923	1151	2583	600	1591	1371	6
	RG 625								
3	IVK I 2016-3	1277	1398	1337	2029	740	1384	1361	7
	JSP 62								
4	IVK I 2016-4	1612	1668	1640	2725	720	1722	1681	5
	RTNG 29								
5	IVK I 2016-5	1201	1198	1200	1958	666	1312	1256	8
	JSP 63								
6	IVK I 2016-6	1901	1600	1750	2962	590	1776	1763	3
	JSSP 57								
7	IVK I 2016-7	1022	1211	1116	1936	441	1189	1152	10
	K 1800								
8	IVK I 2016-8	822	886	854	1966	463	1215	1034	12
	K 1802								
9	IVK I 2016-18	1114	1177	1145	1397	505	951	1048	11
	Somnath (ZC)								
10	IVK I 2016-19	895	1366	1131	2120	508	1314	1222	9
	GG 20 (ZC)								
11	IVK I 2016-20	1820	1893	1857	2747	963	1855	1856	1
	KDG 128 (ZC)								
12	IVK I 2016-21	1856	1547	1701	2781	1044	1912	1807	2
	KDG 123 (ZC)								
	G.M	1414	1364	1389	2327	659	1493	1441	
	S.E. Diff. Mean	119.2	129.6	124.5	214.9	61.7	158.1	142.3	
	CD at 5%	242.4	263.6	248.9	437.2	125.5	316.1	278.8	
	CV %	11.9	13.4	12.7	13.1	13.2	15.0	14.0	

Table 19c: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Ancillary traits

S.N.	Entry	Trait	Junagadh			Amreli			Pooled
			2016	2017	Mean	2016	2017	Mean	mean
1	IVK I 2016-1	PS	143	144	143	108	107	108	125
	JSSP 56	D	124	119	122	124	125	124	123
		S	73	73	73	71	61	66	69
		HKW	64	40	52	52	37	45	48
		SMK	97	89	93	97	96	96	95
		O	49	50	50	-	48	48	49
		P	29	25	27	-	26	26	27
2	IVK I 2016-2	PS	143	145	144	107	109	108	126
	RG 625	D	123	121	122	125	126	125	124
		S	68	71	70	65	58	62	66
		HKW	70	45	57	58	42	50	54
		SMK	91	94	93	96	94	95	94
		O	52	53	53	-	48	48	50
		P	24	25	25	-	27	27	26
3	IVK I 2016-3	PS	137	147	142	111	106	108	125
	JSP 62	D	122	120	121	121	122	122	121
		S	64	66	65	63	58	61	63
		HKW	39	30	35	42	29	35	35
		SMK	77	82	80	95	94	94	87
		O	50	49	50	-	48	48	49
		P	26	26	26	-	26	26	26
4	IVK I 2016-4	PS	136	144	140	96	106	101	121
	RTNG 29	D	126	118	122	116	118	117	119
		S	61	67	64	71	59	65	65
		HKW	27	30	29	40	26	33	31
		SMK	68	81	75	97	92	95	85
		O	50	49	50	-	49	49	49
		P	27	28	28	-	27	27	27
5	IVK I 2016-5	PS	139	144	142	106	107	107	124
	JSP 63	D	123	119	121	124	127	126	123
		S	64	67	65	64	58	61	63
		HKW	39	33	36	39	31	35	35
		SMK	85	93	89	96	92	94	91
		O	50	49	50	-	48	48	49
		P	26	26	26	-	26	26	26
6	IVK I 2016-6	PS	139	145	142	109	107	108	125
	JSSP 57	D	123	122	123	123	124	124	123
		S	67	70	68	68	57	62	65
		HKW	49	46	48	55	32	44	46
		SMK	80	95	87	99	92	95	91
		O	48	51	50	-	46	46	48
		P	27	25	26	-	26	26	26

S.N.	Entry	Trait	Junagadh			Amreli			Pooled
			2016	2017	Mean	2016	2017	Mean	mean
7	IVK I 2016-7	PS	132	147	140	102	106	104	122
	K 1800	D	122	119	121	121	122	121	121
		S	58	69	63	68	59	63	63
		HKW	26	35	30	37	29	33	32
		SMK	59	86	72	97	90	93	83
		O	50	50	50	-	48	48	49
		P	26	27	27	-	27	27	27
8	IVK I 2016-8	PS	135	145	140	111	107	109	125
	K 1802	D	124	122	123	118	120	119	121
		S	58	65	62	65	60	63	62
		HKW	26	29	28	37	27	32	30
		SMK	71	79	75	97	92	95	85
		O	51	51	51	-	49	49	50
		P	24	28	26		27	27	27
9	IVK I 2016-18	PS	105	146	126	98	107	102	114
	Somnath (ZC)	D	124	119	122	123	124	124	123
		S	68	71	70	65	62	64	67
		HKW	48	58	53	46	35	40	47
		SMK	87	94	91	96	93	94	92
		O	52	54	53	-	49	49	51
		P	24	25	25	-	27	27	26
10	IVK I 2016-19	PS	140	144	142	108	107	107	125
	GG 20 (ZC)	D	123	122	123	116	117	117	120
		S	61	73	67	68	65	67	67
		HKW	42	51	46	44	37	41	43
		SMK	76	94	85	98	97	98	91
		O	53	53	53	-	50	50	52
		P	25	26	26	-	27	27	26
11	IVK I 2016-20	PS	138	146	142	107	104	105	124
	KDG 128 (ZC)	D	122	121	122	115	117	116	119
		S	66	70	68	70	65	68	68
		HKW	33	31	32	38	29	34	33
		SMK	87	84	85	97	94	96	90
		O	51	51	51	-	50	50	51
		P	29	29	29	-	28	28	29
12	IVK I 2016-21	PS	140	140	140	106	106	106	123
	KDG 123 (ZC)	D	121	121	121	117	117	117	119
		S	64	65	65	69	65	67	66
		HKW	30	30	30	41	30	35	33
		SMK	80	72	76	98	95	96	86
		O	50	50	50	-	50	50	50
		P	29	28	29	-	28	28	28
Final plant stand (000/ha)									
	G.M.		136	145	140	106	107	106	123
	S.E. Diff. Mean		4.5	1.9	3.2	3.7	1.9	3.0	3.2
	CD at 5%		9.2	NS	6.4	7.5	NS	5.9	6.3
	CV %		4.7	1.9	3.5	5.0	2.6	4.0	3.7

ZONE IV

Table 20a: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Pod yield (kg/ha)

S.N.	Entry	Bhubaneswar			Kanke			Imphal (Manipur)			Mohanpur			Pooled	
		2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	mean	R
1	IVK I 2016-1	2274	2325	2299	1931	1773	1852	2890	3183	3037	1660	1655	1658	2211	7
	JSSP 56														
2	IVK I 2016-2	1954	1635	1795	2297	1891	2094	2239	2204	2221	2348	2334	2341	2113	10
	RG 625														
3	IVK I 2016-3	2057	1970	2013	2147	1931	2039	1981	3392	2687	2783	2794	2788	2382	4
	JSP 62														
4	IVK I 2016-4	2080	2285	2183	2033	2640	2337	3100	3397	3248	2456	2475	2465	2558	1
	RTNG 29														
5	IVK I 2016-5	2120	1852	1986	1959	2600	2279	2388	3274	2831	2984	3008	2996	2523	2
	JSP 63														
6	IVK I 2016-6	1817	1616	1716	1580	1655	1617	2711	3333	3022	2135	2099	2117	2118	9
	JSSP 57														
7	IVK I 2016-7	1659	1694	1676	1352	1537	1444	1155	3005	2080	1682	1626	1654	1713	13
	K 1800														
8	IVK I 2016-8	2242	1753	1998	2120	2404	2262	2908	3184	3046	1527	1568	1547	2213	6
	K 1802														
9	IVK I 2016-21	1875	1675	1775	2116	1694	1905	3026	3532	3279	1058	1157	1107	2017	11
	KDG 123 (ZC)														
10	IVK I 2016-22	1643	1773	1708	1931	1655	1793	2480	3231	2855	1424	1445	1434	1948	12
	ICGS 76 (ZC)														
11	IVK I 2016-23	1627	1931	1779	2234	2364	2299	1953	3027	2490	2577	2569	2573	2285	5
	BAU 13 (ZC)														
12	IVK I 2016-24	1797	2069	1933	2116	2325	2220	2086	3735	2910	2697	2818	2758	2455	3
	GJG 18 (ZC)														
13	IVK I 2016-25	1765	1655	1710	1820	1813	1816	2530	3181	2856	2246	2506	2376	2189	8
	Raj Mungafali 2 (ZC)														
	G.M	1916	1864	1890	1972	2022	1997	2419	3206	2812	2121	2158	2140	2210	
	S.E. Diff. Mean	67.1	65.7	66.4	145.1	190.3	169.2	263.6	373.8	323.5	122.7	105.2	114.3	194.1	
	CD at 5%	136.0	133.3	132.7	294.3	385.9	338.3	534.7	NS	647.0	248.8	213.4	NS	380.4	
	CV %	4.9	5.0	5.0	10.4	13.3	12.0	15.4	16.5	16.3	8.2	6.9	7.6	12.4	

Table 20b: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Kernel yield (kg/ha)

S.N.	Entry	Bhubaneswar			Kanke			Imphal (Manipur)			Mohanpur			Pooled	
		2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	mean	R
1	IVK I 2016-1	1380	1562	1471	1287	1204	1246	2177	2286	2232	1185	1170	1177	1531	7
	JSSP 56														
2	IVK I 2016-2	1221	993	1107	1683	1299	1491	1576	1480	1528	1674	1661	1668	1448	10
	RG 625														
3	IVK I 2016-3	1264	1345	1305	1330	1311	1321	1412	2436	1924	1950	1966	1958	1627	4
	JSP 62														
4	IVK I 2016-4	1400	1372	1386	1447	1835	1641	2230	2413	2322	1704	1728	1716	1766	1
	RTNG 29														
5	IVK I 2016-5	1282	1111	1196	1297	1734	1515	1621	2225	1923	2131	2137	2134	1692	2
	JSP 63														
6	IVK I 2016-6	1208	932	1070	1104	1125	1114	2017	2390	2203	1538	1482	1510	1474	9
	JSSP 57														
7	IVK I 2016-7	1009	991	1000	870	986	928	815	2083	1449	1096	1095	1095	1118	13
	K 1800														
8	IVK I 2016-8	1386	1009	1198	1425	1674	1549	2021	2246	2134	1073	1108	1090	1493	8
	K 1802														
9	IVK I 2016-21	1148	1009	1078	1480	1163	1322	2274	2601	2437	717	792	754	1398	11
	KDG 123 (ZC)														
10	IVK I 2016-22	1046	1021	1033	1356	1164	1260	1950	2424	2187	1014	1024	1019	1375	12
	ICGS 76 (ZC)														
11	IVK I 2016-23	1003	1204	1103	1450	1502	1476	1432	2186	1809	1805	1811	1808	1549	6
	BAU 13 (ZC)														
12	IVK I 2016-24	1138	1195	1167	1439	1616	1527	1495	2650	2073	1953	1977	1965	1683	3
	GJG 18 (ZC)														
13	IVK I 2016-25	1127	1031	1079	1285	1246	1266	1958	2399	2179	1636	1782	1709	1558	5
	Raj Mungafali 2 (ZC)														
	G.M	1201	1136	1169	1342	1374	1358	1767	2294	2031	1498	1518	1508	1516	
	S.E. Diff. Mean	56.6	60.6	58.6	98.4	145.3	124.1	192.2	267.0	232.6	89.0	74.8	82.2	141.2	
	CD at 5%	114.8	123.0	117.3	199.6	294.6	248.1	389.8	541.5	465.2	180.5	151.7	NS	276.7	
	CV %	6.7	7.5	7.1	10.4	15.0	12.9	15.4	16.5	16.2	8.4	7.0	7.7	13.2	

Table 20c: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Ancillary traits

S.No	Entry	Trait	Bhubaneswar			Kanke			Imphal (Manipur)			Mohanpur			Pooled
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	mean
1	IVK I 2016-1	PS	122	136	129	128	129	129	120	136	128	95	87	91	119
	JSSP 56	D	122	110	116	121	121	121	123	120	122	118	117	118	119
		S	61	67	64	67	68	68	73	72	73	71	71	71	69
		HKW	34	35	35	65	61	63	71	55	63	65	65	65	56
		SMK	81	82	82	95	75	85	78	61	70	87	89	88	81
		O	-	49	49	46		46	49	48	49	-	-	-	48
		P	-	26	26	27		27	26	22	24	-	-	-	26
2	IVK I 2016-2	PS	130	128	129	139	135	137	136	133	134	151	121	136	134
	RG 625	D	115	105	110	120	125	123	121	121	121	116	115	116	117
		S	63	61	62	74	69	72	64	67	66	71	71	71	68
		HKW	27	40	34	79	70	74	71	59	65	72	69	70	61
		SMK	95	76	86	93	76	84	57	59	58	89	90	90	79
		O	-	47	47	49		49	50	51	51	-	-	-	49
		P	-	24	24	28		28	25	21	23	-	-	-	25
3	IVK I 2016-3	PS	137	132	134	125	121	123	122	136	129	144	123	133	130
	JSP 62	D	118	108	113	116	121	119	121	122	122	115	117	116	117
		S	62	68	65	62	68	65	67	72	70	70	70	70	67
		HKW	24	33	29	62	63	63	60	54	57	56	55	55	51
		SMK	92	84	88	95	77	86	65	68	66	88	89	89	82
		O	-	49	49	50		50	51	52	51	-	-	-	50
		P	-	24	24	28		28	25	26	26	-	-	-	26
4	IVK I 2016-4	PS	129	125	127	120	135	128	125	135	130	101	101	101	121
	RTNG 29	D	121	105	113	118	124	121	121	128	125	116	118	117	119
		S	67	60	64	71	69	70	68	71	70	69	70	70	68
		HKW	36	28	32	52	59	56	48	41	45	52	50	51	46
		SMK	89	76	83	91	92	92	68	59	64	88	88	88	81
		O	-	50	50	50		50	51	51	51	-	-	-	50
		P	-	28	28	29		29	27	26	27	-	-	-	28
5	IVK I 2016-5	PS	136	121	129	140	137	139	129	128	129	141	123	132	132
	JSP 63	D	124	107	116	115	120	118	121	125	123	109	112	111	117
		S	61	60	61	66	67	67	64	68	66	71	71	71	66
		HKW	32	24	28	72	69	71	50	46	48	59	60	59	51
		SMK	83	75	79	91	91	91	57	64	61	88	89	89	80
		O	-	48	48	50		50	50	49	50	-	-	-	49
		P	-	25	25	28		28	24	25	24	-	-	-	26
6	IVK I 2016-6	PS	121	117	119	110	123	117	124	133	129	75	82	78	111
	JSSP 57	D	122	108	115	121	121	121	123	126	125	114	115	115	119
		S	67	58	63	70	68	69	68	72	70	72	71	71	68
		HKW	48	21	35	76	72	74	66	55	61	62	62	62	58
		SMK	92	73	83	88	94	91	69	67	68	87	89	88	82
		O	-	44	44	51		51	48	48	48	-	-	-	48
		P	-	26	26	29		29	25	23	24	-	-	-	26
7	IVK I 2016-7	PS	121	125	123	113	115	114	81	130	105	61	66	63	101
	K 1800	D	124	107	116	120	120	120	130	125	128	116	114	115	120
		S	61	59	60	64	64	64	66	69	68	65	67	66	64
		HKW	26	24	25	56	54	55	56	45	51	50	49	49	45
		SMK	89	74	82	81	85	83	64	63	64	87	90	89	79
		O	-	48	48	50		50	52	53	52	-	-	-	50
		P	-	25	25	29		29	28	24	26	-	-	-	26

S.No	Entry	Trait	Bhubaneswar			Kanke			Imphal (Manipur)			Mohanpur			Pooled mean
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	
8	IVK I 2016-8	PS	141	121	131	142	137	140	136	134	135	140	121	130	134
	K 1802	D	117	105	111	120	123	122	128	131	130	116	115	116	119
		S	62	58	60	67	70	69	67	71	69	70	71	70	67
		HKW	20	23	22	61	62	61	45	41	43	49	50	49	44
		SMK	90	73	82	92	88	90	68	67	67	89	91	90	82
		O	-	48	48	51		51	51	52	52	-	-	-	50
		P	-	25	25	29		29	28	25	26	-	-	-	27
9	IVK I 2016-21	PS	141	119	130	136	112	124	137	139	138	48	75	61	113
	KDG 123 (ZC)	D	121	110	116	123	122	123	122	129	126	119	120	120	121
		S	61	60	61	70	69	70	68	74	71	68	68	68	67
		HKW	23	26	25	56	59	58	51	45	48	48	47	47	44
		SMK	91	76	84	96	79	87	73	67	70	87	87	87	82
		O	-	48	48	50		50	51	52	51	-	-	-	50
		P	-	26	26	30		30	28	27	28	-	-	-	28
10	IVK I 2016-22	PS	137	118	127	139	118	129	136	139	137	52	90	71	116
	ICGS 76 (ZC)	D	124	107	116	119	120	120	123	128	126	112	115	114	119
		S	64	58	61	70	70	70	72	75	74	71	71	71	69
		HKW	24	29	27	59	56	57	59	43	51	59	58	58	48
		SMK	89	73	81	95	87	91	79	69	74	89	90	90	84
		O	-	48	48	50		50	50	50	50	-	-	-	49
		P	-	24	24	29		29	27	25	26	-	-	-	26
11	IVK I 2016-23	PS	129	123	126	115	140	128	120	137	128	78	114	96	119
	BAU 13 (ZC)	D	122	105	114	123	125	124	124	133	129	119	121	120	122
		S	62	62	62	65	64	65	71	72	72	70	71	70	67
		HKW	24	27	26	73	72	73	81	69	75	53	50	51	56
		SMK	85	78	82	90	89	89	74	65	70	88	91	90	82
		O	-	46	46	52		52	50	50	50	-	-	-	49
		P	-	23	23	28		28	28	26	27	-	-	-	26
12	IVK I 2016-24	PS	128	117	123	129	139	134	129	136	133	101	127	114	126
	GJG 18 (ZC)	D	124	105	115	120	122	121	121	122	122	117	115	116	118
		S	63	58	61	68	69	69	68	71	70	72	70	71	67
		HKW	25	29	27	56	57	56	67	55	61	52	52	52	49
		SMK	82	74	78	83	85	84	69	65	67	89	91	90	80
		O	-	46	46	49		49	50	50	50	-	-	-	48
		P	-	24	24	27		27	28	25	27	-	-	-	26
13	IVK I 2016-25	PS	136	115	126	139	118	129	131	134	133	97	123	110	124
	Raj Mungafali 2	D	116	107	112	123	123	123	121	122	122	109	110	110	116
		S	64	62	63	71	69	70	74	75	75	73	71	72	70
		HKW	34	30	32	71	73	72	68	52	60	50	49	49	53
		SMK	86	78	82	90	88	89	77	70	74	88	89	89	83
		O	-	48	48	50		50	50	51	51	-	-	-	50
		P	-	22	22	27		27	27	23	25	-	-	-	25
Final plant stand (000/ha)															
	G.M.		131	123	127	129	128	128	125	135	130	99	104	101	122
	S.E. Diff. Mean		4.4	4.7	4.5	6.1	6.1	6.1	4.4	3.9	4.2	19.3	5.5	14.2	8.3
	CD at 5%		8.9	9.5	9.1	12.4	12.3	12.2	8.9	NS	8.3	39.2	11.2	28.4	16.3
	CV %		4.7	5.4	5.1	6.7	6.7	6.8	5.0	4.1	4.6	27.7	7.5	19.8	9.7

ZONE V

Table 21a: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Pod yield (kg/ha)

S.N.	Entry	Dharwad			Raichur			Hiriyur			Vriddhachalam *			Tindivanam			Jagtial			Tirupati			Digraj			Pooled mean	R
		2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	(7 ctrs)	
1	IVK I 2016-1	2375	3818	3096	1247	2487	1867	2792	2337	2564	1291	2102	1696	2280	1855	2067	1022	3140	2081	1804	1945	1875	2288	1703	1995	2221	9
	JSSP 56																										
2	IVK I 2016-2	2038	2979	2508	1561	3291	2426	2235	1869	2052	1407	1080	1243	2422	2134	2278	964	2652	1808	2053	1092	1573	2156	1411	1783	2061	12
	RG 625																										
3	IVK I 2016-3	3385	3054	3220	2065	2745	2405	2182	1877	2029	1345	1492	1418	1895	2000	1947	1175	2656	1915	1643	1490	1566	2489	1452	1970	2150	11
	JSP 62																										
4	IVK I 2016-4	3643	5242	4443	1388	2144	1766	2464	2024	2244	2052	1139	1596	2452	2708	2580	2558	4381	3470	1566	3732	2649	4198	1981	3089	2891	2
	RTNG 29																										
5	IVK I 2016-5	2364	3589	2976	2113	2710	2411	2377	2085	2231	1276	1701	1488	1707	2258	1982	977	2313	1645	1762	1531	1646	2713	1712	2213	2158	10
	JSP 63																										
6	IVK I 2016-6	3685	3651	3668	1367	1995	1681	2837	2542	2689	1685	1825	1755	2227	3039	2633	1312	3586	2449	2186	2242	2214	2915	1785	2350	2526	5
	JSSP 57																										
7	IVK I 2016-7	3237	4244	3740	1732	2492	2112	2271	1994	2133	996	2298	1647	1619	2477	2048	1590	3172	2381	1553	2313	1933	2506	1568	2037	2340	6
	K 1800																										
8	IVK I 2016-8	3886	4504	4195	1700	2251	1975	2742	2466	2604	1747	2537	2142	1970	1727	1848	1344	2557	1950	2318	2530	2424	3915	1759	2837	2548	4
	K 1802																										
9	IVK I 2016-20	3329	5236	4282	1403	2328	1866	2879	2602	2741	2082	1964	2023	2374	1795	2084	2356	4437	3396	2293	3392	2843	4285	2366	3325	2934	1
	KDG 128 (ZC)																										
10	IVK I 2016-21	3385	5296	4340	1352	1984	1668	2385	2108	2247	2564	2447	2506	2254	2059	2156	2878	4126	3502	2136	3466	2801	4052	2246	3149	2837	3
	KDG 123 (ZC)																										
11	IVK I 2016-22	2250	3719	2985	2035	2407	2221	2816	2386	2601	812	1452	1132	1619	1932	1776	1481	3129	2305	1324	1342	1333	3231	1648	2439	2237	8
	ICGS 76 (ZC)																										
12	IVK I 2016-26	2540	3615	3078	1325	1875	1600	2094	1818	1956	1278	1806	1542	1647	1835	1741	1028	2818	1923	1598	1716	1657	2267	1323	1795	1964	13
	GG 16 (ZC)																										
13	IVK I 2016-28	2458	4131	3295	1624	2587	2105	1608	1447	1527	1016	1093	1055	1400	2055	1728	1805	3889	2847	1254	1925	1590	4098	1903	3000	2299	7
	ICGV 00348 (ZC)																										
	G.M	2967	4083	3525	1608	2407	2008	2437	2119	2278	1504	1764	1634	1990	2144	2067	1576	3296	2436	1807	2209	2008	3162	1758	2460	2397	
	S.E. Diff. Mean	492.2	368.4	434.7	191.1	288.0	244.4	256.0	186.0	223.8	278.8	286.4	282.6	137.5	163.9	151.3	116.8	243.4	190.9	219.6	293.3	259.0	319.6	125.7	242.8	261.8	
	CD at 5%	998.2	747.2	869.4	387.6	584.2	488.8	519.3	377.3	NS	565.5	580.9	565.2	278.9	332.3	302.5	236.8	493.6	381.7	445.3	594.8	518.1	648.2	254.9	485.6	513.2	
	CV %	23.5	12.8	17.4	16.8	16.9	17.2	14.9	12.4	13.9	26.2	23.0	24.5	9.8	10.8	10.4	10.5	10.4	11.1	17.2	18.8	18.3	14.3	10.1	14.0	15.5	

* The centre not included in the overlocation analysis because of its high CV % for pod and kernel yield during kharif 2016

Table 21b: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Kernel yield (kg/ha)

S.N.	Entry	Dharwad			Raichur			Hiriyur			Vriddhachalam *			Tindivanam			Jagtial			Tirupati			Digraj			Pooled mean (7 ctrs)	R
		2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean		
1	IVK I 2016-1	1887	2980	2433	857	1830	1343	2029	1789	1909	780	1500	1140	1573	1269	1421	670	2185	1428	1107	1377	1242	1567	1206	1386	1595	7
	JSSP 56																										
2	IVK I 2016-2	1471	2031	1751	1044	2380	1712	1621	1391	1506	788	753	771	1531	1356	1444	563	1777	1170	1079	734	906	1576	1016	1296	1398	12
	RG 625																										
3	IVK I 2016-3	2566	2156	2361	1482	1970	1726	1394	1369	1382	750	972	861	1246	1254	1250	601	1727	1164	865	997	931	1842	1090	1466	1468	10
	JSP 62																										
4	IVK I 2016-4	2750	3861	3305	916	1529	1223	1707	1529	1618	1238	749	993	1760	1856	1808	1605	2669	2137	895	2557	1726	2495	1252	1874	1956	3
	RTNG 29																										
5	IVK I 2016-5	1766	2606	2186	1341	1906	1624	1697	1551	1624	705	1056	880	1130	1386	1258	567	1383	975	982	1052	1017	1922	1232	1577	1466	11
	JSP 63																										
6	IVK I 2016-6	2742	2705	2724	962	1447	1204	1926	1849	1888	1093	1165	1129	1521	1994	1757	806	2327	1566	1324	1579	1451	1938	1244	1591	1740	4
	JSSP 57																										
7	IVK I 2016-7	2470	3069	2770	1121	1802	1461	1591	1490	1541	597	1490	1043	1137	1575	1356	898	1483	1191	867	1524	1195	1619	1086	1353	1552	8
	K 1800																										
8	IVK I 2016-8	2994	3294	3144	1100	1569	1334	1951	1812	1881	878	1670	1274	1417	1125	1271	744	1528	1136	1316	1640	1478	2403	1087	1745	1713	5
	K 1802																										
9	IVK I 2016-20	2520	3956	3238	910	1659	1284	2097	1867	1982	1425	1338	1381	1727	1255	1491	1413	2840	2126	1262	2450	1856	2652	1565	2108	2012	1
	KDG 128 (ZC)																										
10	IVK I 2016-21	2574	3995	3284	843	1377	1110	1773	1534	1653	1752	1656	1704	1581	1403	1492	1866	2747	2306	1243	2504	1873	2561	1422	1992	1959	2
	KDG 123 (ZC)																										
11	IVK I 2016-22	1749	2875	2312	1351	1688	1519	1987	1379	1683	553	1008	780	1132	1293	1212	870	2133	1502	779	964	872	2290	1208	1749	1550	9
	ICGS 76 (ZC)																										
12	IVK I 2016-26	1921	2722	2321	937	1373	1155	1408	1285	1346	800	1147	974	1025	1164	1094	610	1890	1250	926	1216	1071	1354	817	1086	1332	13
	GG 16 (ZC)																										
13	IVK I 2016-28	1896	3054	2475	1083	1859	1471	1037	1068	1053	580	698	639	934	1383	1159	1142	2462	1802	726	1367	1046	3008	1348	2178	1598	6
	ICGV 00348 (ZC)																										
	G.M	2254	3023	2639	1073	1722	1397	1709	1532	1620	918	1169	1044	1363	1409	1386	950	2089	1519	1028	1535	1282	2094	1198	1646	1641	
	S.E. Diff. Mean	374.6	271.5	327.1	120.7	204.0	167.5	192.4	151.5	173.1	179.1	195.0	187.2	93.1	106.0	99.7	90.5	213.0	163.6	153.3	193.0	174.2	203.7	82.0	155.3	191.3	
	CD at 5%	759.7	550.6	654.2	244.7	413.6	335.1	390.2	307.2	NS	363.2	395.4	374.3	188.9	214.9	199.5	183.5	432.0	327.2	310.8	391.4	348.5	413.1	166.3	310.5	375.0	
	CV %	23.5	12.7	17.5	15.9	16.7	17.0	15.9	14.0	15.1	27.6	23.6	25.4	9.7	10.6	10.2	13.5	14.4	15.2	21.1	17.8	19.2	13.8	9.7	13.3	16.5	

* The centre not included in the overlocation analysis because of its high CV % for pod and kernel yield during kharif 2016

Table 21c: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2016) AND STAGE II (Kh. 2017) POOLED

Ancillary traits

S.N	Entry	Trait	Dharwad			Raichur			Hiriyur			Vriddhachalam *			Tindivanam			Jagtial			Tirupati			Digraj			Pooled mean (7 ctrs)
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	
1	IVK I 2016-1	PS	136	115	125	230	226	228	99	112	106	121	186	154	130	112	121	143	139	141	122	96	109	142	141	141	139
	JSSP 56	D	121	-	121	111	102	107	128	118	123	115	115	115	127	115	121	120	106	113	137	115	126	117	114	116	118
		S	79	78	79	69	74	71	83	77	80	60	72	66	69	68	69	66	70	68	61	72	67	68	71	70	72
		HKW	66	65	65	47	62	54	98	63	80	53	36	45	56	60	58	30	42	36	31	59	45	53	32	43	54
		SMK	95	96	96	93	97	95	-	91	91	75	78	76	97	98	98	89	94	91	78	88	83	90	86	88	92
		O	47	48	48	49	48	48	49	-	49	50	50	50	52	49	50	50	51	50	48	49	48	45	47	46	49
		P	26	27	27	27	28	27	29	-	29	25	27	26	25	28	27	21	24	23	26	27	26	27	26	27	26
2	IVK I 2016-2	PS	134	98	116	231	226	228	113	123	118	139	99	119	139	107	123	145	131	138	127	72	100	139	141	140	138
	RG 625	D	122	-	122	115	100	108	128	117	123	120	119	120	127	113	120	121	104	112	137	115	126	121	120	121	119
		S	72	68	70	67	73	70	67	75	71	54	69	62	63	64	63	59	67	63	53	67	60	73	72	73	67
		HKW	79	58	68	32	39	36	70	50	60	46	47	47	63	78	70	41	47	44	33	57	45	52	34	43	52
		SMK	93	97	95	93	95	94	-	84	84	78	73	75	92	90	91	85	88	86	85	85	85	91	84	88	89
		O	47	48	47	51	49	50	49	-	49	49	49	49	51	51	51	51	52	51	49	49	49	46	48	47	49
		P	25	25	25	28	29	28	27	-	27	25	25	25	26	25	26	22	25	23	25	24	25	26	21	24	25
3	IVK I 2016-3	PS	124	106	115	228	230	229	115	125	120	66	102	84	141	118	129	143	140	141	123	83	103	140	141	140	140
	JSP 62	D	119	-	119	114	114	114	128	117	123	120	120	120	129	111	120	113	102	108	137	115	126	118	120	119	118
		S	76	71	73	72	72	72	76	73	75	56	65	60	66	63	64	52	65	58	53	67	60	74	75	75	68
		HKW	57	43	50	41	47	44	71	51	61	46	58	52	47	54	50	28	40	34	29	47	38	58	37	47	46
		SMK	95	96	95	93	93	93	-	86	86	74	75	74	98	98	98	81	91	86	78	89	84	90	90	90	90
		O	48	49	49	47	48	47	50	-	50	50	51	51	52	51	51	50	53	52	49	50	49	49	50	50	50
		P	26	26	26	28	28	28	27	-	27	25	26	26	25	25	25	23	24	23	26	26	26	28	25	27	26
4	IVK I 2016-4	PS	135	119	127	233	229	231	109	119	114	125	91	108	105	115	110	142	133	138	117	123	120	140	141	141	140
	RTNG 29	D	117	-	117	119	103	111	128	118	123	115	116	116	129	113	121	114	103	108	137	115	126	122	122	122	118
		S	76	74	75	66	72	69	87	76	81	61	65	63	72	69	70	63	61	62	57	69	63	59	63	61	69
		HKW	46	42	44	37	53	45	59	53	56	37	39	38	41	47	44	25	32	29	20	41	31	52	35	43	42
		SMK	94	97	96	93	95	94	-	86	86	65	69	67	96	96	96	79	91	85	74	86	80	92	84	88	89
		O	51	51	51	49	49	49	50	-	50	50	51	51	52	51	51	51	51	51	48	51	49	50	52	51	50
		P	28	28	28	24	28	26	29	-	29	27	28	28	27	27	27	26	27	27	27	29	28	28	27	28	27
5	IVK I 2016-5	PS	116	116	116	231	230	231	101	107	104	112	126	119	124	107	115	136	139	138	119	91	105	142	140	141	136
	JSP 63	D	120	-	120	110	98	104	128	117	123	116	116	116	127	115	121	114	106	110	137	115	126	118	117	117	117
		S	75	73	74	64	71	68	71	74	73	56	62	59	66	61	64	58	60	59	56	70	63	71	72	71	67
		HKW	56	51	53	33	40	36	62	56	59	42	42	42	49	49	49	26	45	35	27	51	39	53	42	47	46
		SMK	97	97	97	93	94	93	-	87	87	80	76	78	97	94	95	84	88	86	81	85	83	90	90	90	90
		O	49	49	49	49	50	49	50	-	50	50	51	51	52	49	51	49	50	49	48	52	50	49	49	49	50
		P	26	27	26	23	29	26	26	-	26	24	26	25	25	24	24	23	24	23	25	28	26	26	24	25	25

S.N	Entry	Trait	Dharwad			Raichur			Hiriyur			Vriddhachalam *			Tindivanam			Jagtial			Tirupati			Digraj			Pooled mean (7 ctrs)
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	
6	IVK I 2016-6	PS	136	100	118	229	228	229	104	115	110	136	112	124	133	115	124	143	136	139	126	90	108	141	140	141	138
	JSSP 57	D	121	-	121	115	101	108	128	116	122	115	115	115	130	115	123	121	107	114	137	115	126	123	123	123	119
		S	75	74	74	70	73	71	78	73	75	66	63	64	68	66	67	62	65	63	60	71	66	66	70	68	69
		HKW	59	60	59	48	65	56	91	66	78	46	57	52	56	60	58	33	42	38	37	55	46	52	31	42	54
		SMK	95	98	97	95	93	94	-	91	91	71	79	75	96	98	97	88	90	89	84	87	86	90	83	87	91
		O	46	46	46	49	48	48	49	-	49	48	49	49	52	47	49	49	50	49	47	47	47	46	46	46	48
		P	26	26	26	25	26	25	27	-	27	25	26	26	24	25	25	23	26	24	26	28	27	27	25	26	26
7	IVK I 2016-7	PS	136	130	133	230	230	230	112	121	116	125	139	132	103	117	110	143	129	136	124	112	118	142	140	141	141
	K 1800	D	121	-	121	115	102	108	128	118	123	116	116	116	130	111	121	114	107	110	137	115	126	120	122	121	118
		S	76	72	74	65	73	69	75	75	75	60	65	62	70	64	67	57	47	52	56	67	62	64	69	67	66
		HKW	46	40	43	33	43	38	65	45	55	36	41	39	49	46	47	27	33	30	26	40	33	51	38	44	41
		SMK	94	95	94	92	94	93	-	86	86	69	76	72	98	95	96	86	89	87	83	88	86	90	90	90	90
		O	49	51	50	50	51	50	52	-	52	50	53	52	53	55	54	51	53	52	49	53	51	49	52	51	51
		P	26	27	27	25	29	27	27	-	27	26	26	26	26	25	25	25	27	26	25	27	26	28	26	27	26
8	IVK I 2016-8	PS	138	123	130	229	229	229	93	104	99	148	184	166	144	117	130	143	133	138	132	117	124	139	142	140	142
	K 1802	D	118	-	118	115	112	113	128	118	123	116	116	116	130	111	121	121	107	114	137	115	126	119	120	119	119
		S	77	73	75	65	70	67	86	74	80	53	66	59	72	65	69	56	60	58	57	65	61	61	62	62	67
		HKW	47	41	44	34	42	38	67	52	60	41	42	42	44	53	48	26	41	34	27	39	33	48	38	43	43
		SMK	93	96	95	94	93	93	-	89	89	72	80	76	92	96	94	89	86	88	84	84	84	91	84	87	90
		O	50	52	51	49	50	49	52	-	52	50	53	52	54	54	54	51	54	52	50	54	52	50	51	51	52
		P	26	27	26	24	29	27	27	-	27	26	26	26	25	24	25	23	25	24	25	27	26	28	26	27	26
9	IVK I 2016-20	PS	140	131	136	230	229	230	107	118	113	161	117	139	119	116	117	143	139	141	139	139	139	143	138	140	145
	KDG 128 (ZC)	D	119	-	119	116	105	110	128	117	123	115	115	115	130	115	123	120	108	114	137	115	126	117	119	118	119
		S	76	76	76	65	71	68	85	72	78	73	67	70	73	70	71	66	64	65	55	72	64	62	66	64	69
		HKW	46	43	44	41	45	43	58	52	55	39	40	40	44	44	44	29	42	35	19	41	30	50	38	44	42
		SMK	98	98	98	93	91	92	-	91	91	77	77	77	91	94	92	89	93	91	77	87	82	91	86	89	91
		O	51	50	50	48	49	49	51	-	51	50	52	51	52	52	52	51	52	52	48	52	50	49	51	50	51
		P	28	29	28	25	28	26	29	-	29	28	28	28	27	28	28	26	28	27	27	30	28	29	28	29	28
10	IVK I 2016-21	PS	136	133	135	228	227	228	115	134	125	154	80	117	133	117	125	139	137	138	128	132	130	138	138	138	145
	KDG 123 (ZC)	D	119	-	119	120	105	112	128	118	123	116	118	117	129	112	121	121	108	114	137	115	126	117	114	116	119
		S	76	75	76	63	69	66	49	73	61	68	67	68	70	68	69	65	67	66	58	72	65	63	63	63	67
		HKW	46	46	46	40	54	47	54	37	46	40	40	40	40	43	41	26	37	31	20	40	30	48	35	42	40
		SMK	96	97	96	94	93	93	-	87	87	71	74	73	95	99	97	81	93	87	76	86	81	90	91	91	90
		O	50	50	50	49	50	49	50	-	50	50	51	51	51	52	52	50	52	51	47	52	50	49	51	50	50
		P	28	29	29	28	29	28	27	-	27	28	28	28	27	28	27	27	29	28	27	29	28	28	29	29	28

S.N	Entry	Trait	Dharwad			Raichur			Hiriyur			Vriddhachalam *			Tindivanam			Jagtial			Tirupati			Digraj			Pooled mean (7 ctrs)
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	
11	IVK I 2016-22	PS	130	121	125	226	226	226	118	126	122	104	147	126	95	132	113	147	143	145	115	87	101	141	138	139	139
	ICGS 76 (ZC)	D	120	-	120	119	110	115	128	120	124	118	119	119	129	115	122	120	107	113	137	115	126	118	117	118	120
		S	78	77	77	67	71	69	54	58	56	68	69	69	70	67	68	59	68	64	59	72	66	71	73	72	67
		HKW	48	44	46	36	39	37	86	50	68	41	41	41	44	47	45	26	36	31	25	43	34	57	29	43	43
		SMK	95	96	96	94	95	95	-	88	88	74	70	72	83	96	90	84	92	88	77	82	80	90	85	88	89
		O	48	49	48	49	50	50	50	-	50	49	50	50	52	49	51	50	52	51	48	51	49	49	50	50	50
		P	25	24	25	24	30	27	27	-	27	25	25	25	24	24	24	24	24	24	25	25	25	27	22	25	25
12	IVK I 2016-26	PS	127	110	118	225	225	225	101	112	106	129	172	151	129	120	125	142	132	137	122	89	106	138	138	138	136
	GG 16 (ZC)	D	119	-	119	120	108	114	128	119	124	118	119	119	130	113	122	113	108	110	137	115	126	119	117	118	119
		S	76	75	76	71	73	72	68	70	69	63	63	63	62	63	63	59	67	63	58	71	65	60	62	61	67
		HKW	64	55	60	37	45	41	66	48	57	53	51	52	48	62	55	30	41	36	28	57	43	55	38	46	48
		SMK	97	99	98	93	94	93	-	84	84	79	84	81	96	96	96	86	92	89	79	88	84	91	91	91	91
		O	49	50	49	49	49	49	50	-	50	50	50	50	51	50	50	49	52	50	48	51	49	48	50	49	50
		P	26	26	26	24	27	26	27	-	27	26	25	26	25	27	26	28	25	27	25	27	26	26	25	26	26
13	IVK I 2016-28	PS	130	127	128	232	230	231	112	123	118	139	117	128	112	107	109	144	141	142	126	81	103	139	139	139	139
	ICGV 00348 (Z	D	118	-	118	119	101	110	128	119	124	116	116	116	129	113	121	121	107	114	137	115	126	121	120	120	119
		S	77	74	75	67	72	69	81	74	78	54	64	59	67	67	67	63	63	63	58	70	64	73	71	72	70
		HKW	38	37	38	34	35	35	50	36	43	34	38	36	38	37	37	24	35	29	21	38	30	47	30	39	36
		SMK	95	97	96	94	92	93	-	81	81	52	63	58	96	94	95	90	93	91	75	91	83	91	91	91	90
		O	52	53	52	52	53	53	52	-	52	52	54	53	54	53	54	51	55	53	50	52	51	51	55	53	53
		P	26	27	27	25	28	27	28	-	28	25	25	25	25	27	26	24	27	25	25	29	27	27	22	25	26
Final plant stand (000/ha)																											
	G.M.		132	118	125	229	228	229	108	118	113	128	129	128	123	115	119	142	136	139	124	101	113	140	140	140	140
	S.E. Diff. Mean		11.1	6.1	9.0	2.3	2.2	2.2	13.1	9.4	11.4	20.1	16.9	18.6	8.9	11.0	10.0	2.7	4.7	3.8	9.8	8.1	9.0	2.0	2.7	2.4	7.7
	CD at 5%		NS	12.5	NS	4.6	NS	NS	NS	NS	NS	40.8	34.4	37.2	18.1	NS	20.0	NS	NS	NS	NS	16.4	18.0	NS	NS	NS	15.1
	CV %		11.9	7.4	10.2	1.4	1.3	1.4	17.3	11.3	14.3	22.1	18.7	20.5	10.2	13.4	11.8	2.7	4.9	3.9	11.2	11.3	11.3	2.1	2.7	2.4	7.8

* The centre not included in the overlocation analysis because of its high CV % for pod and kernel yield during kharif 2016

Large seeded Varietal Trial (LSVT stage I and II Pooled)

This trial which comprised seven test genotypes and six check varieties was allotted to five centres and all of them have reported the data. The Coefficient of variation (CV%) was about 12% for pod and kernel yield and the CV% was well within the limits at all locations. The centre-wise results are presented below (**Tables 22a through 22c**).

Ludhiana
The mean pod and kernel yield levels in this location over two years were very high (2345 kg/ha and 1570 kg/ha respectively). The check variety, GJG HPS 1 was the best for pod (3513 kg/ha) and kernel (2428 kg/ha) yield and out yielded all the six test genotypes and other check varieties. Among the test genotypes, JSSP LS 55 was the best for pod (2975 kg/ha) and kernel (2052 kg/ha) yield.

Junagadh
The mean pod and kernel yield levels in this location over two years were very high (3475 kg/ha and 2413 kg/ha). The check variety, GJG HPS 1 was the best for pod (4012 kg/ha) and kernel (2846 kg/ha) yield. Over this best check none of the test genotypes could surpass significantly for pod and kernel yield. Among the test genotypes, TG 79 was the best for pod (4244 kg/ha) and kernel (2944 kg/ha) yield.

Shirgaon
The mean pod (1652 kg/ha) and kernel (1153 kg/ha) yield levels over the two test years in this location were low. Over the two test years, the zonal check variety, BAU 13 was the best among check varieties with a pod and kernel yield of 1975 kg/ha and 1429 kg/ha respectively. Over this best check none of the test genotypes could surpass significantly for pod and kernel yield. Among the test genotypes, JSSP HPS 2 was the best for pod (2136 kg/ha) and kernel (1512 kg/ha) yield.

Junagadh
Over two years the mean pod (1942 kg/ha) and kernel (1298 kg/ha) yield levels in this location were moderate. The check variety, Mallika was the best for pod (2297 kg/ha) and kernel yield (1534 kg/ha). Among the test genotypes, JSSP LS 55 recorded a high pod and kernel yield of 2450 kg/ha and 1653 kg/ha respectively but it was not significantly superior over that of the best check, Mallika.

Rahuri
Over two years the mean pod (2295 kg/ha) and kernel (1495 kg/ha) yield levels in this location were high. The check variety, GJG HPS 1 was the best for pod (2587 kg/ha) and for kernel (1733 kg/ha) yield and out yielded all the checks and test genotypes. Among the test genotypes, JSSP LS 54 was the best for pod (2492 kg/ha) and kernel (1592 kg/ha) yield.

Zonal Mean performances
Over two years the mean pod (2342 kg/ha) and kernel (1586 kg/ha) yield levels in this location were moderate. Across five test locations and over two years, the check variety GJG HPS 1 was the best check for pod and kernel yield (2757 and 1915 kg/ha) respectively and out yielded all the checks and test genotypes. Among the test genotypes, JSSP LS 55 was the best for pod (2639 kg/ha) and kernel (1808 kg/ha) yield.

Ancillary observation

The plant stand was sub-optimal during both the years at all centres. The test genotypes and check varieties matured around 120 days. Shelling outturn ranged from 63% in TG 79 to 69% in JSSP HPS 1 and TPG 41. The seed size ranged from 54g/100 kernels (TKG 19A) to 76 g/100 kernels (JSSP HPS 52). The oil content was in the range of 49%-52% in all the genotypes. The protein content was in the range of 26%-28% in all the genotypes.

Conclusion

As the Zonal check, GJG HPS 1 out yielded all the test entries for both pod and kernel yield, none deserves promotion to ALSVT.

Table 22a : LARGE SEEDED VARIETAL TRIAL (LSVT) STAGE I (KH 2016) and STAGE II (KH 2017) POOLED

Pod yield (kg/ha)

S.N.	Entry	Ludhiana			Durgapura			Shirgaon			Junagadh			Rahuri			Pooled mean	R
		2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean		
1	LSVT-I- 2016-1	2873	3077	2975	4144	3662	3903	1371	1665	1518	2774	2126	2450	2511	2183	2347	2639	3
	JSSP-LS-55																	
2	LSVT-I- 2016-2	1749	2365	2057	3286	3817	3552	1243	1621	1432	2735	1173	1954	1805	3021	2413	2281	7
	RG 598																	
3	LSVT-I- 2016-3	1001	2164	1582	2427	3944	3186	1322	2949	2136	2296	2389	2343	2091	2046	2068	2263	8
	JSSP-HPS-52																	
4	LSVT-I- 2016-4	1583	2520	2052	3432	4121	3776	1320	1536	1428	2018	1629	1823	2671	1593	2132	2242	10
	RG 615																	
5	LSVT-I- 2016-5	2407	2214	2311	2475	3038	2757	1199	2524	1861	1667	2110	1889	2577	2406	2492	2262	9
	JSSP-LS-54																	
6	LSVT-I- 2016-6	1135	3570	2353	3223	3576	3399	855	1514	1185	1990	2413	2201	2518	2132	2325	2293	6
	JSSP-HPS-53																	
7	LSVT-I- 2016-7	2138	3263	2700	4157	4330	4244	1295	1763	1529	2277	925	1601	2060	2037	2049	2424	5
	TG 79																	
8	LSVT-I- 2016-9	1180	2462	1821	2722	2927	2825	1695	2256	1975	1746	1497	1622	2904	2111	2507	2150	11
	BAU 13 (ZC)																	
9	LSVT-I- 2016-10	3250	3777	3513	4356	3668	4012	1501	1897	1699	1788	2157	1972	3215	1959	2587	2757	1
	GJG (HPS)-1 (ZC)																	
10	LSVT-I- 2016-11	3331	2785	3058	3777	3871	3824	1096	2517	1806	2618	1360	1989	2023	1777	1900	2515	4
	TPG 41 (ZC)																	
11	LSVT-I- 2016-12	1198	2279	1738	2483	2805	2644	1087	2095	1591	1733	1329	1531	2343	2477	2410	1983	12
	TKG 19A (ZC)																	
12	LSVT-I- 2016-13	816	1607	1212	2558	3172	2865	1158	2113	1635	1307	1848	1578	2422	2169	2296	1917	13
	ICGV 86564 (ZC)																	
13	LSVT-I- 2016-14	2782	3444	3113	4291	4094	4192	1623	1751	1687	2596	1998	2297	2349	2278	2313	2720	2
	Mallika (ZC)																	
	G.M	1957	2733	2345	3333	3617	3475	1290	2015	1652	2119	1766	1942	2422	2168	2295	2342	
	S.E. Diff. Mean	150.4	229.8	194.2	218.5	276.1	248.9	145.1	154.2	149.7	191.3	167.3	179.7	270.3	131.5	212.5	199.8	
	CD at 5%	305.0	466.1	388.4	443.0	559.9	497.8	294.3	312.7	299.4	387.9	339.3	359.3	548.2	266.7	425.1	391.5	
	CV %	10.9	11.9	11.7	9.3	10.8	10.1	15.9	10.8	12.8	12.8	13.4	13.1	15.8	8.6	13.1	12.1	

Note :There was a missing entry namely LSVT I 2016-13 in both the years (2016 and 2017) at Rahuri centre. To perform overlocations analysis, the mean pod and kernel yields of the centre was considered.

Table 22b : LARGE SEEDED VARIETAL TRIAL (LSVT) STAGE I (KH 2016) and STAGE II (KH 2017) POOLED

Kernel yield (kg/ha)

S.N.	Entry	Ludhiana			Durgapura			Shirgaon			Junagadh			Rahuri			Pooled mean	R
		2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean		
1	LSVT-I- 2016-1	1935	2170	2052	2980	2463	2721	1001	1177	1089	1919	1388	1653	1694	1353	1523	1808	3
	JSSP-LS-55																	
2	LSVT-I- 2016-2	1118	1500	1309	2320	2572	2446	641	1264	952	1858	819	1338	1229	1854	1541	1517	8
	RG 598																	
3	LSVT-I- 2016-3	612	1477	1044	1804	2591	2198	911	2114	1512	1441	1681	1561	1437	1337	1387	1540	7
	JSSP-HPS-52																	
4	LSVT-I- 2016-4	1005	1712	1358	2545	2863	2704	824	1017	920	1317	1143	1230	1778	930	1354	1513	9
	RG 615																	
5	LSVT-I- 2016-5	1620	1547	1583	1697	1991	1844	907	1560	1234	1084	1364	1224	1772	1412	1592	1495	10
	JSSP-LS-54																	
6	LSVT-I- 2016-6	790	2505	1647	2317	2419	2368	626	917	771	1382	1743	1562	1705	1380	1542	1578	5
	JSSP-HPS-53																	
7	LSVT-I- 2016-7	1202	2105	1653	2922	2966	2944	867	1068	967	1349	567	958	1353	1182	1267	1558	6
	TG 79																	
8	LSVT-I- 2016-9	749	1620	1184	1833	1951	1892	1186	1672	1429	1122	931	1026	1961	1261	1611	1428	11
	BAU 13 (ZC)																	
9	LSVT-I- 2016-10	2185	2670	2428	3177	2515	2846	1076	1375	1226	1214	1474	1344	2202	1263	1733	1915	1
	GJG (HPS)-1 (ZC)																	
10	LSVT-I- 2016-11	2126	1939	2033	2753	2698	2725	814	1891	1353	1730	935	1332	1397	1152	1275	1743	4
	TPG 41 (ZC)																	
11	LSVT-I- 2016-12	716	1599	1157	1792	1813	1803	679	1532	1105	1201	928	1064	1600	1573	1586	1343	12
	TKG 19A (ZC)																	
12	LSVT-I- 2016-13	551	1102	826	1775	2166	1970	845	1587	1216	841	1241	1041	1643	1347	1495	1310	13
	ICGV 86564 (ZC)																	
13	LSVT-I- 2016-14	1824	2442	2133	3033	2790	2911	1201	1229	1215	1753	1315	1534	1594	1474	1534	1865	2
	Mallika (ZC)																	
	G.M	1264	1876	1570	2381	2446	2413	890	1415	1153	1401	1194	1298	1643	1348	1495	1586	
	S.E. Diff. Mean	107.5	178.9	147.6	154.5	185.0	170.4	98.7	108.0	103.4	118.5	116.4	117.5	184.6	94.5	146.6	139.1	
	CD at 5%	218.0	362.8	295.1	313.4	375.1	340.8	200.1	219.0	206.8	240.4	236.2	234.9	374.4	191.6	293.2	272.7	
	CV %	12.0	13.5	13.3	9.2	10.7	10.0	15.7	10.8	12.7	12.0	13.8	12.8	15.9	9.9	13.9	12.4	

Note :There was a missing entry namely LSVT I 2016-13 in both the years (2016 and 2017) at Rahuri centre. To perform overlocations analysis, the mean pod and kernel yields of the centre was considered.

Table 22c : LARGE SEEDED VARIETAL TRIAL (LSVT) STAGE I (KH 2016) and STAGE II (KH 2017) POOLED

Ancillary traits

S. N.	Entry	Trait	Ludhiana			Durgapura			Shirgaon			Junagadh			Rahuri			Pooled mean
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	
1	LSVT-I- 2016-1	PS	179	135	157	136	149	143	73	139	106	140	143	142	130	288	209	151
	JSSP-LS-55	D	125	118	121	129	128	129	117	109	113	121	122	122	116	119	117	120
		S	67	70	69	72	67	70	73	71	72	69	65	67	67	62	65	68
		HKW	70	74	72	88	70	79	66	88	77	68	51	60	80	65	73	72
		SMK	92	85	89	70	85	78	88	84	86	85	84	85	92	95	94	86
		O	52	53	52	49	-	49	48	49	49	49	50	50	-	48	48	50
		P	28	28	28	27	-	27	28	29	29	25	26	26	-	25	25	27
2	LSVT-I- 2016-2	PS	132	125	129	142	148	145	74	133	103	140	141	141	112	284	198	143
	RG 598	D	122	115	119	112	113	113	108	107	108	117	114	116	113	123	118	114
		S	64	63	64	71	67	69	52	78	65	68	70	69	68	61	65	66
		HKW	54	64	59	75	75	75	85	113	99	65	60	63	64	58	61	71
		SMK	94	87	90	81	92	87	85	86	86	92	96	94	95	94	94	90
		O	50	50	50	49	-	49	47	51	49	49	51	50	-	48	48	49
		P	26	27	26	28	-	28	28	30	29	25	24	25	-	25	25	27
3	LSVT-I- 2016-3	PS	109	118	114	140	139	140	75	139	107	137	143	140	119	297	208	142
	JSSP-HPS-52	D	130	123	126	130	129	130	117	105	111	120	117	119	114	121	118	121
		S	61	68	65	74	66	70	69	72	70	63	70	67	69	66	67	68
		HKW	47	78	63	88	69	78	93	110	102	73	63	68	76	58	67	76
		SMK	80	87	84	85	94	90	81	85	83	93	91	92	94	94	94	88
		O	50	49	50	48	-	48	49	50	50	49	51	50	-	48	48	49
		P	26	27	27	27	-	27	28	29	29	25	24	25	-	24	24	26
4	LSVT-I- 2016-4	PS	98	124	111	145	141	143	76	135	106	138	145	142	128	298	213	143
	RG 615	D	126	122	124	128	127	128	117	105	111	123	119	121	116	124	120	121
		S	64	68	66	74	70	72	62	66	64	65	70	68	67	59	63	66
		HKW	67	71	69	89	78	84	62	64	63	68	68	68	72	55	64	69
		SMK	83	85	84	77	92	85	90	82	86	78	97	88	91	92	92	87
		O	53	52	52	51	-	51	49	50	50	50	53	52	-	49	49	51
		P	26	26	26	28	-	28	30	30	30	25	25	25	-	24	24	26
5	LSVT-I- 2016-5	PS	181	145	163	143	146	145	76	145	111	143	142	143	126	277	202	152
	JSSP-LS-54	D	122	118	120	126	126	126	115	102	109	122	119	121	109	123	116	118
		S	67	70	69	69	66	67	76	62	69	65	65	65	69	59	64	67
		HKW	63	71	67	75	64	69	83	71	77	66	46	56	63	51	57	65
		SMK	91	90	90	82	86	84	83	81	82	92	93	93	94	95	94	89
		O	53	54	54	51	-	51	51	53	52	51	52	52	-	50	50	52
		P	28	29	28	30	-	30	29	30	30	26	26	26	-	27	27	28
6	LSVT-I- 2016-6	PS	166	134	150	139	149	144	80	142	111	147	147	147	126	295	211	152
	JSSP-HPS-53	D	126	120	123	127	127	127	115	105	110	121	117	119	113	125	119	120
		S	69	70	70	72	68	70	73	61	67	69	72	71	68	65	66	69
		HKW	47	66	57	67	63	65	99	71	85	56	53	54	65	52	59	64
		SMK	90	89	90	90	91	91	85	83	84	91	96	94	91	95	93	90
		O	53	54	54	53	-	53	50	50	50	52	54	53	-	52	52	52
		P	29	28	29	28	-	28	29	30	30	26	26	26	-	26	26	28
7	LSVT-I- 2016-7	PS	147	134	141	142	149	146	77	138	108	137	141	139	135	284	210	148
	TG 79	D	109	110	110	110	113	112	109	104	107	121	116	119	113	122	117	113
		S	56	65	60	70	69	69	67	61	64	59	61	60	66	58	62	63
		HKW	50	68	59	78	69	74	94	81	88	54	42	48	69	43	56	65
		SMK	84	88	86	87	89	88	85	82	84	82	96	89	94	90	92	88
		O	51	51	51	51	-	51	48	50	49	51	52	52	-	48	48	50
		P	26	27	27	27	-	27	30	29	30	24	23	24	-	25	25	26
8	LSVT-I- 2016-9	PS	168	131	149	145	139	142	77	139	108	138	147	143	143	293	218	152
	BAU 13 (ZC)	D	123	120	121	129	128	129	112	106	109	121	117	119	109	122	115	119
		S	63	66	65	67	67	67	70	74	72	64	62	63	68	60	64	66
		HKW	46	57	51	61	58	60	74	87	81	58	48	53	65	55	60	61
		SMK	84	88	86	88	88	88	83	85	84	94	94	94	88	93	91	88
		O	54	54	54	52	-	52	50	52	51	51	51	51	-	50	50	51
		P	28	28	28	29	-	29	30	31	31	26	26	26	-	27	27	28

S. N.	Entry	Trait	Ludhiana			Durgapura			Shirgaon			Junagadh			Rahuri			Pooled mean
			2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	2016	2017	Mean	
9	LSVT-I- 2016-10	PS	149	131	140	143	143	143	80	142	111	142	144	143	136	286	211	150
	GJG (HPS)-1 (ZC)	D	124	123	123	128	129	129	118	105	112	124	119	122	114	121	118	120
		S	67	71	69	73	69	71	72	73	72	68	68	68	69	65	67	69
		HKW	52	66	59	68	61	64	84	78	81	46	44	45	68	49	59	62
		SMK	93	89	91	90	92	91	88	84	86	89	95	92	93	91	92	90
		O	52	54	53	51	-	51	50	51	51	50	51	51	-	50	50	51
		P	28	28	28	29	-	29	29	30	30	25	26	26	-	25	25	27
10	LSVT-I- 2016-11	PS	142	134	138	142	146	144	76	141	108	137	145	141	123	286	204	147
	TPG 41 (ZC)	D	114	115	115	125	126	126	114	102	108	121	117	119	114	116	115	116
		S	64	70	67	73	70	71	74	75	75	66	69	67	69	65	67	69
		HKW	51	63	57	78	72	75	79	75	77	52	48	50	65	46	56	63
		SMK	83	91	87	91	95	93	84	83	84	93	96	94	90	92	91	90
		O	54	55	54	51	-	51	51	51	51	53	54	54	-	48	48	52
		P	28	27	28	28	-	28	29	32	31	24	24	24	-	25	25	27
11	LSVT-I- 2016-12	PS	118	126	122	137	151	144	75	143	109	141	145	143	118	273	196	143
	TKG 19A (ZC)	D	124	121	122	126	127	127	121	103	112	121	120	121	112	122	117	120
		S	60	70	65	72	65	68	62	73	68	69	70	70	68	64	66	67
		HKW	34	51	42	74	67	71	45	72	59	45	37	41	68	48	58	54
		SMK	92	90	91	82	87	85	91	81	86	84	94	89	90	95	92	89
		O	53	53	53	50	-	50	48	50	49	51	51	51	-	49	49	50
		P	27	27	27	28	-	28	30	31	31	27	26	27	-	26	26	28
12	LSVT-I- 2016-13	PS	93	101	97	143	145	144	75	140	108	75	147	111	126	287	207	133
	ICGV 86564 (ZC)	D	126	125	125	127	128	128	112	102	107	123	119	121	-	-	-	120
		S	68	69	68	69	68	69	73	75	74	64	67	66	68	62	65	68
		HKW	62	73	68	77	67	72	85	88	87	52	55	54	-	-	-	70
		SMK	81	86	83	96	87	92	81	84	83	87	95	91	-	-	-	87
		O	52	52	52	50	-	50	49	51	50	49	51	50	-	-	-	50
		P	27	28	28	28	-	28	28	30	29	25	26	26	-		-	28
13	LSVT-I- 2016-14	PS	147	131	139	139	147	143	74	141	107	140	144	142	126	283	205	147
	Mallika (ZC)	D	116	120	118	128	130	129	118	99	109	122	121	122	109	119	114	118
		S	66	71	68	71	68	69	74	70	72	68	66	67	68	65	66	69
		HKW	63	78	70	83	82	82	86	91	89	72	59	66	72	61	67	75
		SMK	89	88	88	80	93	87	81	85	83	95	91	93	90	93	92	88
		O	52	53	53	49	-	49	50	51	51	49	51	50	-	50	50	50
		P	27.6	28	28	27.6	-	28	28	30	29	26	26	26	-	27	27	27
Final plant stand (000/ha)																		
	GM		141	128	134	141	146	143	76	140	108	135	144	140	127	287	207	146
	S.E. Diff. Mean		13.2	5.4	10.1	2.6	3.9	3.3	2.9	2.3	2.6	2.9	2.2	2.6	3.2	6.1	4.9	5.5
	CD at 5%		26.9	10.9	20.2	5.2	7.9	6.6	NS	4.7	NS	5.9	NS	5.1	6.4	12.4	9.7	10.7
	CV %		13.3	5.9	10.7	2.6	3.8	3.3	5.3	2.4	3.4	3.1	2.1	2.6	3.5	3.0	3.3	5.3

Note :There was a missing entry namely LSVT I 2016-13 in both the years (2016 and 2017) at Rahuri centre. To perform overlocations analysis, the mean pod and kernel yields of the centre was considered.

ADVANCED VARIETAL TRIAL (AVT)
Habit Group: Spanish Bunch (SB)

Zone V

One entry, JL 1085 was promoted to AVT in zone V Tamil Nadu, Andhra Pradesh, Karnataka, and Telengana in *kharif* 2017. The trial was allotted to seven centres–two (Vridhachalam, Tindivanam); Tirupati (Andhra Pradesh); One (Jagtial) in Telengana; and three (Hiriyur, Dharwad, Raichur in Karnataka. Four varieties, R 2001-2, GPBD-4, R 2001-3, and VG 9816 were used as zonal checks in this trial. The centre-wise results are presented below (**Tables 23a through 23c**).

Whenever, either the coefficient of variation exceeded 20% in any particular location or the mean pod yield of any the location fell below 1462 kg/ha (triennial national average yield of *kharif* season ending 2017), the data could not be included in the analyses. Across five locations, the coefficient of variation (CV %) was about 14% for pod and kernel yield and well within the limits. The centre-wise results are presented below.

Dharwad
The mean yield levels of this centre were very high (3125 kg/ha of pod and 2201 kg/ha of kernel). There were no significant differences between the test entry JL 1085 and the check varieties. In this condition, JL 1085 exhibited superiority in terms of pod (3427 kg/ha) and kernel (2432 kg/ha) yield over the different check varieties. Among the check varieties, R 2001-2 (ZC) was the best for pod (3341 kg/ha) and kernel (2316 kg/ha) yield.

Raichur
The mean yield levels of this centre were very high (3727 kg/ha of pod and 2697 kg/ha of kernel). There were no significant differences either for pod or for kernel yield among the test genotype and check varieties. Among the check varieties, R 2001-3 was the best for pod (4036 kg/ha) and kernel (2959 kg/ha) yield and surpassed the yield levels of all the other checks and the test entry, JL 1085. The test genotype JL 1085 recorded a pod yield of 3853 kg/ha and kernel yield of 2805 kg/ha.

Hiriyur
The mean yield levels of this centre were moderate (2698 kg/ha of pod and 1930 kg/ha of kernel respectively. There were no significant differences either for pod or for kernel yield among the test genotype and check varieties. Among the check varieties, the zonal check variety, R 2001-2 was the best and surpassed the yield levels of all the other checks and the test entry, JL 1085 for pod (3167 kg/ha) as well as kernel (2310 kg/ha) yield. The test genotype JL 1085 recorded a pod yield of 2654 kg/ha and kernel yield of 1956 kg/ha.

Tirupati
The mean yield levels of this centre were very high (2977 kg/ha of pod and 1930 kg/ha of kernel). Among the check varieties, the zonal check variety, VG 9816 was the best for pod (3002 kg/ha) and kernel (1979 kg/ha) yield. The test genotype JL 1085 recorded a very high pod yield of 4068 kg/ha and kernel yield of 2565 kg/ha.

Jagtial
The mean yield levels of this centre were moderate (2303 kg/ha of pod and 1530 kg/ha of kernel). The zonal check variety, R 2001-2 was the best for pod (3022 kg/ha) and kernel yield (2048 kg/ha) and surpassed the yield levels of all the other checks and the test entry, JL 1085

for pod (3167 kg/ha) as well as kernel (2310 kg/ha) yield. The test genotype JL 1085 recorded a pod yield of 2967 kg/ha and kernel yield of 1913 kg/ha.

Vridhachalam
The mean yield levels of this centre were moderate (2377 kg/ha of pod and 1530 kg/ha of kernel). The zonal check variety, R 2001-2 was the best for pod (2540 kg/ha) and kernel yield (1657 kg/ha). The test entry, JL 1085 significantly surpassed the yield levels of this best check for pod (3081 kg/ha) as well as kernel (1934 kg/ha) yield.

Tindivanam
The mean yield levels of this centre were high (2906 kg/ha of pod and 1929 kg/ha of kernel). The zonal check variety, R 2001-3 was the best for pod (3405 kg/ha) and kernel yield (2435 kg/ha) and surpassed the yield levels of all the other checks and the test entry, JL 1085. The test genotype JL 1085 recorded a pod yield of 3129 kg/ha and kernel yield of 2203 kg/ha.

Zonal Mean Performances
The mean yields across the seven centres of this zone were high with 2873 kg of pod and 1964 kg of kernel per ha. Across the five locations, the zonal check variety, R 2001-2 was the best for pod (3035 kg/ha) and kernel (2043 kg/ha) yield. Over this check variety, although the test genotype, JL 1085 recorded a high pod (3311 kg/ha) and kernel (2258 kg/ha) yields, but it remained at par with those of the best check R 2001-2 (ZC).

Ancillary Observations (Table 23c)
The plant population was the lowest (197) in Tirupati and sub-optimal at Dharwad, Hiriyur, Jagtial. The entries and checks matured between 107-110 days. The shelling outturn ranged around (67%) in the test materials. Seed size was between 31 g/100 kernels (GPBD 4) to 37g/100 kernels (JL 1085). Oil content of this entry as also high (51%) which ranged between 48%-51%. Protein content in the test materials ranged from 25% (R 2001-3) to 27% (GPBD 4 and JL 1085).

Past performances of the test entry JL 1085
As the real genetic worth of **JL 1085** could not be ascertained at AVT due to the non-significant results at three out of seven test locations, the past performances of the entry **JL 1085** was observed. The entry **JL 1085** was proposed by MPKV-Jalgaon for multi-locational evaluation in *kharif* 2015. It was promoted to AVT in kharif 2017. The entry JL 1085 is a selection from the cross, JL 24 x ICGV 03061-3. Results on performances of this entry across different stages of testing are provided in **Tables 23d through 23e**.

Across different stages of testing from 2015 to 2017, the zonal check variety, R 2001-2 was the best both for pod (3006 kg/ha) yield, whereas for kernel yield the other zonal check variety, R 2001-3 (2058kg/ha). This was closely followed by the other two check varieties, R 2001-3 for pod (2979 kg/ha); VG 9816 (2703 kg of pod and 1852 kg of kernel/ha) and GPBD 4 (2366 kg of pod and 1618 kg of kernel/ha). The mean pod yield of the entry **JL 1085** across different stages of evaluation was 3333 kg/ha and kernel yield was 2305 kg/ha.

Over different check varieties, the increase in pod yield of **JL 1085** was 40.9% over GPBD 4; 23.3% over VG 9816; and 10.9 and 11.9% over the best checks of this zone namely R 2001-2 and R 2001-3 respectively. Whereas increase in kernel yield of this genotype over these check varieties was 42.5% over GPBD 4; 24.5% over VG 9816; and 12.8% and 12.0% over the best checks of this zone namely R 2001-2 and R 2001-3 respectively (**Table 23d**). The genotype **JL 1085** matured in 109d with 68% of shelling; 38 g as Hundred Seed Mass, which was comparatively higher over all the check varieties and with a high oil content (50%) over all the

checks but comparable with that of VG 9816. Protein content of this genotype was 26% and comparable with that of the check varieties (**Table 23e**).

Conclusion

As the test entry, JL 1085 exhibited yield superiority over different stages of testing with high levels of pod and kernel yields and possessed just above 10% higher kernel yields over the best check varieties R 2001-2 and R 2001-3 of the zone deserve identification. Moreover check varieties although have recorded very high yields over years and locations the pod and kernel features are not well received by the farmers. Other varieties (central) released in this zone for *kharif* season were GPBD 4 in 2006 and VG 9816 in 2008; and R 2001-2 and R 2001-3 in 2009. Thus there is a greater need for new and improved groundnut variety with an acceptable pod and kernel feature. Hence, this genotype is proposed for identification.

ZONE V

Table 23a: ADVANCED VARIETAL TRIAL (SPANISH) KHARIF 2017

Pod yield (kg/ha)

S.N.	Entry	Dharwad	Raichur	Hiriyur	Tirupati	Jagtial	Vriddhachalam	Tindivanam	Mean	R
1	ASK 2017-1	3341	3946	3167	2422	3022	2540	2805	3035	2
	R 2001-2 (ZC)									
2	ASK 2017-2	2948	3206	3037	2978	1403	1700	2154	2490	5
	GPBD 4 (ZC)									
3	ASK 2017-3	3427	3853	2654	4068	2967	3081	3129	3311	1
	JL 1085 (Entry)									
4	ASK 2017-4	3141	4036	2218	2415	2461	2323	3405	2857	3
	R 2001-3 (ZC)									
5	ASK 2017-5	2769	3593	2411	3002	1664	2239	3036	2673	4
	VG 9816 (ZC)									
	G.M	3125	3727	2698	2977	2303	2377	2906	2873	
	S.E. Diff. Mean	253.9	295.9	342.8	316.1	160.2	139.3	199.0	254.7	
	CD at 5%	NS	NS	NS	670.1	339.6	295.3	421.8	504.6	
	CV %	12.8	12.6	20.1	16.8	11.0	9.3	10.8	14.0	

Table 23b: ADVANCED VARIETAL TRIAL (SPANISH) KHARIF 2017

Kernel yield (kg/ha)

S.N.	Entry	Dharwad	Raichur	Hiriyur	Tirupati	Jagtial	Vriddhachalam	Tindivanam	Mean	R
1	ASK 2017-1	2316	2803	2310	1601	2048	1657	1565	2043	2
	R 2001-2 (ZC)									
2	ASK 2017-2	2091	2295	2135	1913	919	1109	1366	1690	5
	GPBD 4 (ZC)									
3	ASK 2017-3	2432	2805	1956	2565	1913	1934	2203	2258	1
	JL 1085 (Entry)									
4	ASK 2017-4	2186	2959	1520	1590	1708	1512	2435	1987	3
	R 2001-3 (ZC)									
5	ASK 2017-5	1979	2623	1731	1979	1064	1440	2076	1842	4
	VG 9816 (ZC)									
	G.M	2201	2697	1930	1930	1530	1530	1929	1964	
	S.E. Diff. Mean	178.3	213.5	247.8	175.9	134.4	120.2	131.5	177.1	
	CD at 5%	NS	NS	525.2	372.8	285.0	254.8	278.8	350.9	
	CV %	12.8	12.5	20.3	14.4	13.9	12.4	10.8	14.3	

Table 23c: ADVANCED VARIETAL TRIAL (SPANISH) KHARIF 2017

Ancillary traits

S.N.	Entry	Trait	Dharwad	Raichur	Hiriyur	Tirupati	Jagtial	Vriddhachalam	Tindivanam	Mean
1	ASK 2017-1	PS	247	337	216	197	246	353	331	275
	R 2001-2 (ZC)	D	115	110	115	115	106	96	112	110
		S	69	71	73	66	68	65	56	67
		HKW	30	26	47	33	27	41	34	34
		SMK	95	91	75	90	92	60	92	85
		O	45	49	-	50	49	50	49	49
		P	27	25	-	26	25	25	25	26
2	ASK 2017-2	PS	240	336	186	246	307	354	331	286
	GPBD 4 (ZC)	D	110	99	110	115	109	100	112	108
		S	71	72	70	64	65	66	63	67
		HKW	26	27	44	30	23	36	32	31
		SMK	94	90	80	83	85	64	72	81
		O	53	52	-	53	23	53	52	48
		P	26	27	-	29	25	26	26	27
3	ASK 2017-3	PS	229	331	191	238	237	306	330	266
	JL 1085 (Entry)	D	110	101	111	115	109	96	111	108
		S	71	72	74	64	65	62	70	68
		HKW	34	33	50	38	26	38	41	37
		SMK	92	91	82	88	88	72	98	87
		O	52	51	-	52	51	52	50	51
		P	26	27	-	28	25	26	27	27
4	ASK 2017-4	PS	245	326	196	180	265	326	330	267
	R 2001-3 (ZC)	D	112	99	111	115	107	96	112	107
		S	70	73	68	66	69	65	72	69
		HKW	29	32	40	32	23	38	43	34
		SMK	98	91	74	86	89	62	93	85
		O	50	50	-	50	48	49	48	49
		P	23	26	-	26	25	25	27	25
5	ASK 2017-5	PS	212	339	175	221	270	324	294	262
	VG 9816 (ZC)	D	100	104	110	115	107	98	112	107
		S	72	73	72	66	64	64	68	68
		HKW	29	30	44	31	24	36	40	34
		SMK	95	92	78	87	86	68	96	86
		O	51	51	-	51	51	52	50	51
		P	25	29	-	28	26	26	29	27
Final plant stand (000/ha)										
	GM		235	334	193	216	265	333	323	271
	S.E. Diff. Mean		14.8	0.9	24.4	17.3	19.0	9.6	3.6	15.0
	CD at 5%		NS	1.8	NS	36.6	40.2	20.4	7.7	29.7
	CV %		9.9	0.4	20.1	12.6	11.3	4.6	1.8	8.8

Table 23d: Past performance of JL 1085 in Zone V

S. No.	Entry/ Variety	Trait	IVT I 2015 (7 Cntrs.)	IVT II 2016 (7 Cntrs.)	Pooled Mean (IVT I & II)	AVT 2017 (7 Cntrs.)	Mean (Pooled + AVT)	Weighted mean (21 cntrs)	% yield increase over Weighted mean			
									R 2001-2	GPBD 4	R 2001-3	VG 9816
1	JL 1085 (entry)	P	3625	3062	3344	3311	3327	3333	10.9	40.9	11.9	23.3
		K	2575	2083	2329	2258	2293	2305	12.8	42.5	12.0	24.5
2	R 2001-2 (ZC)	P	3415	2570	2992	3035	3014	3006				
		K	2328	1761	2044	2043	2044	2044				
3	GPBD 4 (ZC)	P	2715	1893	2304	2490	2397	2366				
		K	1866	1298	1582	1690	1636	1618				
4	R 2001-3 (ZC)	P	3306	2775	3041	2857	2949	2979				
		K	2269	1918	2094	1987	2040	2058				
5	VG 9816 (ZC)	P	3275	2160	2718	2673	2695	2703				
		K	2236	1478	1857	1842	1849	1852				

Table 23e: Ancillary Observations over stages

S. No.	Entry/ Variety	Trait	IVT I 2015 (7 Cntrs.)	IVT II 2016 (7 Cntrs.)	Pooled Mean (IVT I & II)	AVT 2017 (7 Cntrs.)	Mean (Pooled + AVT)	Weighted mean (21 cntrs)
1	JL 1085 (entry)	D	106	112	109	108	108	109
		S	69	67	68	68	68	68
		HKW	38	39	38	37	38	38
		SMK	84	86	85	87	86	86
		O	47	50	49	51	50	50
		P	-	25	25	27	26	26
2	R 2001-2 (ZC)	D	108	115	111	110	111	111
		S	67	68	67	67	67	67
		HKW	35	31	33	34	33	33
		SMK	79	84	82	85	83	83
		O	46	48	47	49	48	48
		P	-	25	25	26	25	25
3	GPBD 4 (ZC)	D	107	114	111	108	109	110
		S	65	65	65	67	66	66
		HKW	32	29	31	31	31	31
		SMK	78	85	82	81	81	81
		O	48	51	50	48	49	49
		P	-	26	26	27	26	26
4	R 2001-3 (ZC)	D	107	114	110	107	109	109
		S	67	69	68	69	69	68
		HKW	36	32	34	34	34	34
		SMK	79	87	83	85	84	83
		O	45	48	47	49	48	48
		P	-	25	25	25	25	25
5	VG 9816 (ZC)	D	106	114	110	107	108	109
		S	67	67	67	68	68	67
		HKW	33	31	32	34	33	33
		SMK	82	84	83	86	85	84
		O	46	50	48	51	50	50
		P	-	26	26	27	26	26

'Evaluation of Near Isogenic Lines (NILs)'
Stage of Trial: Advanced Varietal Trial-II (AVT-II)

A major QTL governing resistance to rust from the popular variety of interspecific origin namely GPBD-4 (as donor) and also contributing to LLS tolerance was introgressed using marker-assisted backcrossing (MABC) approach into three popular groundnut varieties, TAG 24, JL 24 and ICGV 91114 by ICRISAT. The objective of the MABC approach was to introgress rust resistance in to early maturing genetic background which would other-wise be late maturing.

Preliminary evaluation was carried out by ICRISATat few target locations. The results showed an increase in pod yield of 20-96% over the recurrent parents and a disease score of 2 (on 1-9 scale) similar to donor parent (GPBD 4). Hence it was conceptualized that a large scale evaluation at multi locations of these MABC lines at hot spotsfor both rust and LLS would result in identification of location-specific elite genotypes which may on further evaluation through AICRP-G, be recommended for release in the target areas. Simultaneously the same approach can also be carried out at state level for release.

Accordingly, a project was formulated and submitted for funding under CRP with ICRISAT as a Lead Centre and ICAR-DGR as a Partner Lead Institution along with five collaboratorsviz. University of Agricultural Sciences- Dharwad; Tamil Nadu Agricultural University-Aliyarnagar; Mahatma Phule Krishi Vidyapeeth-Digraj; Mahatma Phule KrishiVidyapeeth-Jalgaon; Acharya NG Ranga Agril. University-Kadiri.

The project was sanctioned and the multi-location evaluation of 57 MABC lines, three recurrent parents and one donor parent were carried out in rainy season of 2015 at all the seven target sites. The genotypes were evaluated separately in three different sets with codes: i) as rainfed (41 MABCs+3RPs+1D genotypes+3LCs), ii) with supplemental irrigation at critical stages of crop growth (41 MABCs+3RPs+1D genotypes+3LCs) and iii) as rainfed (14 MABCs+3RPs+1D genotypes+3LCs). The location specific promising high yielding lines possessing desired level of resistance to rust and LLS have been identified at each of the centres separately for irrigated, rainfed conditions and for both. These lines are phenotypically stable with distinct morphological features differing from their respective recurrent parents for one or the other traits.

As these genotypes are near-isogenic for resistance to rust and LLS, a special trial was constituted on **'Evaluation of Near Isogenic Lines for rust and LLS'** in *kharif* season (rainy) of 2016 for the first time in India under AICRP-G in Zone V comprising the states of Tamil Nadu, Andhra Pradesh, Telengana, Karnataka and Maharashtra where rust and LLS are predominant. The target sites included Vridhachalam and Aliyarnagar in Tamil Nadu; Kadiri and Tirupati in Andhra Pradesh; Palem in Telengana; Dharwad and Raichur in Karnataka; and Digraj in southern Maharashtra.

Out Twelve promising NILs were proposed by six centres (**Table NILs-1**) in kharif 2016, based on the test results, three NILs viz. ICGV 14421 which exhibited significant yield superiority over its recurrent parent, ICGV 91114 with desired levels of resistance to rust and tolerance to LLS; ICGV 13189 which exhibited significant yield superiority over its recurrent parent ICGV 91114

with desired levels of resistance to rust; and ICGV 13207 which was found high yielding over its recurrent parent TAG 24 with a desired level of resistance to rust are promoted to AVT-II.

Table NILs-1. Details of Near Isogenic entries (NILs) under testing in *Kharif* 2016

S. No.	Decode	Pedigree	Proposed by
1	**ICGV 14421**	**ICGV 91114 x GPBD 4**	**MPKV-Jalgaon**
2	**ICGV 13207**	**TAG 24 x GPBD 4**	**MPKV-Digraj**
3	ICGV 13219	JL 24 x GPBD 4	DGR-Junagadh
4	ICGV 14415	JL 24 x GPBD 4	DGR-Junagadh
5	ICGV 14410	ICGV 91114 x GPBD 4	UAS-Dharwad
6	ICGV 13193	ICGV 91114 x GPBD 4	ICRISAT
7	**ICGV 13189**	**ICGV 91114 x GPBD 4**	**UAS-Dharwad**
8	ICGV 14431	TAG 24 x GPBD 4	MPKV-Digraj
9	ICGV 13221	JL 24 x GPBD 4	MPKV-Digraj
10	ICGV 13200	TAG 24 x GPBD 4	ICRISAT
11	ICGV 13229	JL 24 x GPBD 4	TNAU-Tindivanam
12	ICGV 13220	JL 24 x GPBD 4	TNAU-Tindivanam
	Checks		
1	TAG 24	-	Recurrent Parent
2	ICGV 91114	-	Recurrent Parent
3	JL 24	-	Recurrent Parent
4	GPBD 4 (ZC)	-	Donor Parent & Zonal Check
5	R 2001-2 (ZC)	-	Zonal Check

AVT-I: Centres (8): Vridhachalam, Aliyarnagar, Kadiri, Tirupati, Palem, Dharwad, Raichur, Digraj

Accordingly during *kharif* 2017, the trial was conducted as AVT-II for NILs in seven target target sites viz. Aliyarnagar in Tamil Nadu; Kadiri and Tirupati in Andhra Pradesh; Palem in Telengana; Dharwad and Raichur in Karnataka; and Digraj in southern Maharashtra. Except for Kadiri centre which submitted the data very late all the six centres have conducted and reported the data. The centre-wise results are presented below (**Tables 24a through 24c**).

Tirupati

The mean pod (1937 kg/ha) and kernel (1281 kg/ha) yield of the NIL genotypes, RPs and check varieties were high. The pod (1294 kg/ha) and kernel (1395 kg/ha) yield of JL 24 was high among the RPs. Among the two NILs of ICGV 91114 only one NIL, ICGV 14421 recorded significant higher pod (2246 kg/ha) and kernel (1555 kg/ha) and the other NIL ICGV 13189 of ICGV 91114 remained at par with the recurrent parent ICGV 91114. The other NIL derived from TAG 24, viz. ICGV 13207 also exhibited significant superiority over its RP for pod (2242 kg/ha) and kernel (1409 kg/ha) yield.

Dharwad

The mean pod (1946 kg/ha) and kernel (1465 kg/ha) yield of the NIL genotypes, RPs and checks were high. For pod (1678 kg/ha) among the RPs, JL 24 was the best whereas for kernel ICGV 91114 (1395 kg/ha) was the best. All the three NILs were found inferior for both pod and kernel yields when compared with their respective RP.

Raichur

The mean pod (3112 kg/ha) and kernel (2233 kg/ha) yield of the NIL genotypes, RPs and checks were very high. The pod (2572 kg/ha) and kernel (1847 kg/ha) yield of JL 24 was high among the RPs. Both the two NILs of ICGV 91114 viz. ICGV 14421 (3835 kg of pod; 2739 kg of kernel per ha) and ICGV 13189 (3478 kg of pod; 2532 kg of kernel per ha), recorded significant higher values for both pod and kernel over their recurrent parent. The other NIL derived from TAG 24, viz. ICGV 13207 also exhibited significant superiority over its RP for pod (3938 kg/ha) and kernel (1465 kg/ha) yield.

Aliyarnagar

The mean pod (1943 kg/ha) and kernel (1377 kg/ha) yield of the NIL genotypes, RPs and checks were very high. The pod (1389 kg/ha) and kernel (996 kg/ha) yield of ICGV 91114 was high among the RPs. Out of the two NILs of ICGV 91114, only one, ICGV 13189 (3305 kg of pod; 2352 kg of kernel per ha) recorded significant higher values for both pod and kernel over its recurrent parent. The other NIL, viz. ICGV 13207 (of TAG 24) also exhibited significant superiority over its RP for pod (2000 kg/ha) and kernel (1465 kg/ha) yield.

Palem

The mean pod (3073 kg/ha) and kernel (2061 kg/ha) yield of the NIL genotypes, RPs and checks were very high. The pod (1389 kg/ha) and kernel (996 kg/ha) yield of JL 24 was high among the RPs. Both the two NILs of ICGV 91114 namely ICGV 14421 (4352 kg of pod; 3099 kg of kernel per ha) and ICGV 13189 (3056 kg of pod; 2023 kg of kernel per ha), recorded significant higher values for both pod and kernel over their recurrent parent. The other NIL, viz. ICGV 13207 (of TAG 24) also exhibited significant superiority over its RP for pod (3704 kg/ha) and kernel (2374 kg/ha) yield.

Digraj

The mean pod (1456 kg/ha) and kernel (1037 kg/ha) yield of the NIL genotypes, RPs and checks were very low. The pod (1554 kg/ha) and kernel (1125 kg/ha) yield of JL 24 was high among the RPs. Both the two NILs of ICGV 91114 namely ICGV 14421 were inferior to the RP for both pod and kernel yield. Whereas, the other NIL, ICGV 13207 (of TAG 24) exhibited significant superiority over its RP, for pod (1648 kg/ha) and kernel (1231 kg/ha) yield.

Mean performance across six locations

The mean pod (2245 kg/ha) and kernel (1576 kg/ha) yield of the NIL genotypes, RPs and checks were very high. All the three recurrent parents {TAG 24 (8^{th} rank), ICGV 91114 (7^{th} rank) and JL 234 (6^{th} rank)} were observed to be the low yielders across the six locations. The pod (1877 kg/ha) and kernel (1360 kg/ha) yield of JL 24 was high among the RPs. In comparison with the recurrent parents, all the three NILs exhibited significant superiority for both pod and kernel yield over their respective recurrent parents. Among the NILs, ICGV 13207, a derivative of the cross, TAG 24 x GPBD 4 not only exhibited significant pod and kernel yield superiority over its recurrent parent but remained at par with that of the best zonal check, R 2001-2. The kernel yield of this NIL was 2607 kg/ha. This was followed by the NILs ICGV 13189 (a derivative of the cross, ICGV 91114 x GPBD 4 with a pod and kernel yield of 2504 kg and 1767 kg/ha and ICGV

14421 with a pod and kernel yield of 2453 kg and 1755 kg/ha respectively. Thus it is evident that by yield-wise all the three NILs were superior over their respective recurrent parents.

Ancillary observations

The plant population was the lowest (126) in Tirupati, Dharwad and Palem; sub-optimal at Aliyarnagar. The entries and checks matured between 107-114 days. The shelling outturn ranged from 67% (TAG 24) to 72% (JL 24) in the test materials. Seed size was between 30 g/100 kernels (GPBD 4) to 36g/100 kernels (ICGV 13189). Oil content of all the genotypes were high which ranged between 50% (ICGV 91114) to 53% (ICGV 13207, GPBD 4) followed by ICGV 14421. Protein content in the test materials ranged from 24% (TAG 24, R 2001-2, ICGV 13207) to 27% (GPBD 4).

Reactions of NILS, recurrent parents and checks to rust and LLS diseases (Table 24d,e)

The reactions of the all the three test genotypes (NILs) to the rust disease along with three recurrent parents, a resistant donor and the zonal check, R 2001-2 were assessed at six hot spot locations. Incidence of rust disease was severe only at Aliyarnagar and disease pressure was sub-optimal at Dharwad. In all the other four locations (Digraj, Palem, Raichur, Tirupati) disease pressure was very low. as evident from the rust disease score recorded by the recurrent parents. With a single valid locations data, all the three the recurrent parents recorded a disease score of 8.0 and the resistant donor, GPBD 4 recorded a disease score of 2.0. Under this disease pressure

For rust, the disease pressure was high only at Digraj where two of the three recurrent parents (except JL 24) scored a disease score of 9.0 followed by a sub-optimal disease pressure of 7.0 at Aliyarnagar as evidenced by a disease score of 7.0 (recorded by the susceptible check, TMV 7). Under these circumstances, two high yielding NILs of ICGV 91114 namely ICGV 14421 and ICGV 13189 and the one of TAG 24 viz. ICGV 13207 recorded a rust disease score of 1.0 (Immune) as against the disease score of 4.0 (ICGV 13189) and 5.0 (ICGV 14421, 13207) recorded by the three recurrent parents.

A rust disease score of 4.0 and 5.0 relate to 11-20%; and 21-30% of leaf area damaged by the disease and a disease score of >7.0 relate to 41-60% leaf area damaged by the disease (Subrahmanyam *et al.* 1995) and for the purpose of comparison the following classification is suggested (Subrahmanyam *et al.* 1982): scores of 2.2-2.4-highly resistant; scores of 2.8-3.4-resistant; scores of 3.8-7.0- moderately resistant and score of 9- susceptible.

During the first year of experimentation also the disease pressure for rust was high only at Digraj where two of the three recurrent parents (except JL 24) scored a disease score of 9.0 followed by a sub-optimal disease pressure of 7.0 at Aliyarnagar as evidenced by a disease score of 7.0 (recorded by the susceptible check, TMV 7).

Conclusion

Although the NILs were significantly superior over their recurrent parents across six locations for pod and kernel yield, for the claimed character/target trait i.e. 'resistance to rust' none exhibited desired levels of resistance to rust and tolerance to LLS. For yield also, these NILs were not superior over the available check varieties and hence not proposed for identification.

Table 24a:ADVANCED STAGE I, SPECIAL TRIAL ON NEAR ISOGENIC ENTRIES (NILs) KHARIF 2017

Pod yield (kg/ha)

S.N.	Entry	Tirupati	Dharwad	Raichur	Aliyarnagar	Palem	Digraj	Mean	R
1	AMABC-I- 2017-1	1263	1403	2202	961	1690	1007	1421	8
	TAG 24 (RP)								
2	AMABC-I- 2017-2	1476	1655	2315	1389	2342	1518	1783	7
	ICGV 91114 (RP)								
3	AMABC-I- 2017-3	1890	1678	2572	1250	2315	1554	1877	6
	JL 24 (RP)								
4	AMABC-I- 2017-4	2579	2560	2990	2222	2870	1998	2537	3
	GPBD 4 (ZC)								
5	AMABC-I- 2017-5	2016	2162	3568	3389	4259	1256	2775	1
	R 2001-2 (ZC)								
6	AMABC-I- 2017-6	2246	1941	3835	1028	4352	1318	2453	5
	ICGV 14421 (Entry)								
7	AMABC-I- 2017-7	2242	2112	3938	2000	3704	1648	2607	2
	ICGV 13207 (Entry)								
8	AMABC-I- 2017-8	1784	2056	3478	3305	3056	1348	2504	4
	ICGV 13189 (Entry)								
	G.M	1937	1946	3112	1943	3073	1456	2245	
	S.E. Diff. Mean	305.2	237.9	245.1	190.6	128.4	121.4	215.0	
	CD at 5%	625.1	487.2	502.1	390.4	263.0	248.6	424.4	
	CV %	24.9	19.3	12.5	15.5	6.6	13.2	15.1	

Table 24b:ADVANCED STAGE I, SPECIAL TRIAL ON NEAR ISOGENIC ENTRIES (NILs) KHARIF 2017

Kernel yield (kg/ha)

S.N.	Entry	Tirupati	Dharwad	Raichur	Aliyarnagar	Palem	Digraj	Mean	R
1	AMABC-I- 2017-1	776	1034	1599	673	1035	643	960	8
	TAG 24 (RP)								
2	AMABC-I- 2017-2	986	1281	1647	996	1543	1006	1243	7
	ICGV 91114 (RP)								
3	AMABC-I- 2017-3	1294	1278	1847	875	1741	1125	1360	6
	JL 24 (RP)								
4	AMABC-I- 2017-4	1661	1949	2106	1553	1871	1542	1780	3
	GPBD 4 (ZC)								
5	AMABC-I- 2017-5	1321	1562	2555	2375	2806	896	1919	1
	R 2001-2 (ZC)								
6	AMABC-I- 2017-6	1555	1499	2739	729	3099	907	1755	5
	ICGV 14421 (Entry)								
7	AMABC-I- 2017-7	1409	1612	2839	1465	2374	1231	1822	2
	ICGV 13207 (Entry)								
8	AMABC-I- 2017-8	1244	1507	2532	2352	2023	946	1767	4
	ICGV 13189 (Entry)								
	G.M	1281	1465	2233	1377	2061	1037	1576	
	S.E. Diff. Mean	175.7	175.7	190.2	140.4	112.4	90.8	151.9	
	CD at 5%	359.9	360.0	389.5	287.5	230.2	186.0	299.9	
	CV %	21.7	19.0	13.5	16.1	8.6	13.8	15.2	

Table 24c:ADVANCED STAGE I, SPECIAL TRIAL ON NEAR ISOGENIC ENTRIES (NILs) KHARIF 2017

Ancillary traits

S.N.	Entry	Trait	Tirupati	Dharwad	Raichur	Aliyarnagar	Palem	Digraj	Mean
1	AMABC-I- 2017-1	PS	126	166	327	240	158	368	231
	TAG 24 (RP)	D	114	110	101	105	109	106	107
		S	61	74	73	70	61	64	67
		HKW	30	34	36	42	33	33	35
		SMK	81	91	93	98	80	90	89
		O	50	52	50	55	50	50	51
		P	24	26	26	23	24	22	24
2	AMABC-I- 2017-2	PS	251	174	339	271	245	370	275
	ICGV 91114 (RP)	D	114	106	104	104	119	114	110
		S	67	78	71	72	66	66	70
		HKW	31	36	34	37	34	23	33
		SMK	89	94	91	96	83	88	90
		O	49	50	49	51	48	50	50
		P	27	26	28	23	25	21	25
3	AMABC-I- 2017-3	PS	262	178	331	325	278	367	290
	JL 24 (RP)	D	114	105	102	104	119	117	110
		S	68	76	72	70	75	73	72
		HKW	37	39	33	37	39	28	35
		SMK	81	93	93	95	77	87	88
		O	50	50	50	52	49	50	50
		P	26	26	29	22	27	23	26
4	AMABC-I- 2017-4	PS	233	216	326	255	321	370	287
	GPBD 4 (ZC)	D	114	115	103	113	119	117	113
		S	64	76	70	70	65	77	70
		HKW	29	30	27	37	29	26	30
		SMK	85	93	93	95	67	90	87
		O	53	53	52	57	51	53	53
		P	28	26	29	25	26	27	27
5	AMABC-I- 2017-5	PS	140	177	339	270	300	370	266
	R 2001-2 (ZC)	D	114	115	108	114	120	113	114
		S	65	72	72	70	66	71	69
		HKW	31	31	32	37	30	29	32
		SMK	84	89	91	96	82	87	88
		O	49	50	49	53	49	50	50
		P	25	23	26	23	24	24	24
6	AMABC-I- 2017-6	PS	154	167	331	261	327	367	268
	ICGV 14421 (Entry	D	114	110	104	110	119	114	112
		S	69	77	71	71	71	69	71
		HKW	32	35	33	38	34	28	33
		SMK	86	95	94	97	66	88	88
		O	50	52	51	55	51	52	52
		P	27	24	27	23	24	23	25
7	AMABC-I- 2017-7	PS	229	202	337	267	321	367	287
	ICGV 13207 (Entry	D	114	105	107	110	110	106	109
		S	65	76	72	73	64	75	71
		HKW	31	32	30	41	32	26	32
		SMK	82	94	93	97	71	90	88
		O	52	51	51	56	52	54	53
		P	27	24	26	23	24	19	24
8	AMABC-I- 2017-8	PS	135	204	338	289	307	368	273
	ICGV 13189 (Entry	D	114	115	107	114	119	115	114
		S	70	73	73	71	66	70	71
		HKW	37	33	33	47	33	34	36
		SMK	88	88	92	96	72	88	88
		O	50	49	50	52	48	50	50
		P	27	25	27	24	26	23	25
Final plant stand (000/ha)									
	GM		191	186	333	272	282	368	272
	S.E. Diff. Mean		16.8	14.6	1.2	11.0	4.0	3.1	10.4
	CD at 5%		34.5	29.8	2.5	22.6	8.1	NS	20.5
	CV %		13.9	12.4	0.6	6.4	2.2	1.3	6.0

Table 24d: Rust score at different testing centre

S. No	Name of entry/ Checks	RUST					
		Aliyarnagar	Dharwad	Digraj	Palem	Raichur	Tirupati
1	AMABC-I-2017-1 TAG 24 (RP)	8	6	3	2	4	3
2	AMABC-I-2017-2 ICGV 91114 (RP)	8	5	7	2	5	4
3	AMABC-I-2017-3 JL 24 (RP)	8	6	8	2	4	4
4	AMABC-I-2017-4 GPBD 4 (ZC)	2	2	2	3	5	2
5	AMABC-I-2017-5 R 2001-2 (ZC)	5	3	2	2	5	4
6	AMABC-I-2017-6 ICGV 14421 (Entry)	5	2	2	2	5	3
7	AMABC-I-2017-7 ICGV 13207 (Entry)	5	2	2	3	4	2
8	AMABC-I-2017-8 ICGV 13189 (Entry)	4	3	2	3	5	3

Table24e : Late Leaf Spot score at different testing centre

S. No	Name of entry/ Checks	LLS					
		Aliyarnagar	Dharwad	Digraj	Palem	Raichur	Tirupati
1	AMABC-I-2017-1 TAG 24 (RP)	8	8	9	7	8	6
2	AMABC-I-2017-2 ICGV 91114 (RP)	8	8	9	7	7	7
3	AMABC-I-2017-3 JL 24 (RP)	8	8	9	7	7	8
4	AMABC-I-2017-4 GPBD 4 (ZC)	1	3	2	3	8	2
5	AMABC-I-2017-5 R 2001-2 (ZC)	7	7	9	5	7	8
6	AMABC-I-2017-6 ICGV 14421 (Entry)	4	7	4	4	8	6
7	AMABC-I-2017-7 ICGV 13207 (Entry)	4	5	7	3	7	5
8	AMABC-I-2017-8 ICGV 13189 (Entry)	5	6	9	7	8	7

STATUS OF GROUNDNUT BREEDER SEED PRODUCTION 2017-18

During *kharif* 2017, DAC indents to the tune of 10168.41q of breeder seeds were received for 49 groundnut varieties. Based on the availability of nucleus/breeder seed stage I, a production target of 10198.90q was assigned for 45 groundnut varieties to 20 centres. During *kharif* 2017, a total quantity of 4865.36q breeder seed could be produced. To mitigate the short fall, a compensatory programme was undertaken during *rabi*-summer 2017-18 and the anticipated production is 7648.00q. Thus, the total production of groundnut breeder seeds during 2017-18 would be 12513.36q.

Table 25: Centre-wise Breeder Seed Production in *kharif* 2017 and *rabi*-summer 2017-18 (compensatory) programme

S. N.	Producing Centres	Variety	Target allotted (BSP-I) in q.	Actual Production in Kharif 2017 (q)	Anticipated/ compensatory in rabi-summer 2017-18 (q)	Total Production (q)	Surplus Deficit over BSP I
1	2	3	4	5	6	7	8
1	**Andhra Pradesh**						
	1. ANGRAU, Kadiri	Kadiri Harithandhra	340.00	215.00	500.00	715.00	375.00
		Kadiri-9	720.00	1360.00	1200.00	2560.00	1840.00
		KADIRI-7	10.00	-	30.00	30.00	20.00
		Kadiri-6	3798.00	1130.00	3000.00	4130.00	332.00
		Total	**4868.00**	**2705.00**	**4730.00**	**7435.00**	**2567.00**
	2. ANGRAU, Tirupati	Dharani	847.00	-	847.00	847.00	0.00
		Narayani	170.00	75.00	95.00	170.00	0.00
		Total	**1017.00**	**75.00**	**942.00**	**1017.00**	**0.00**
	3. HIL, Hyderabad	ICGV 00350	585.00	-	250.00	250.00	-335.00
		ICGV-91114	515.00	-	150.00	150.00	-365.00
		Total	**1100.00**	**0.00**	**400.00**	**400.00**	**-700.00**
	4. ICRASAT, Hyderabad	ICGS-76	0.20	0.20	-	0.20	0.00
		VL- Mungfali-1	0.80	-	-	0.00	-0.80
		Total	**1.00**	**0.20**	**0.00**	**0.20**	**-0.80**
2	**Gujarat**						
	1. JAU, Junagadh	GJG-31 (J-71)	30.00	20.00	10.00	30.00	0.00
		GJG-9 (J-69)	40.00	30.00	10.00	40.00	0.00
		GG-21 (JSSP 15)	4.00	4.00	-	4.00	0.00
		GG-20	70.00	70.00	-	70.00	0.00
		GG-2	5.00	5.00	-	5.00	0.00
		GAUG-10	5.00	5.00	-	5.00	0.00
		GJG-17	10.00	10.00	-	10.00	0.00
		Total	**164.00**	**144.00**	**20.00**	**164.00**	**0.00**
	2. DGR, Junagadh	Girnar-3	70.00	26.80	-	26.80	-43.20
		Girnar-2	100.00	45.00	-	45.00	-55.00
		Total	**170.00**	**71.80**	**0.00**	**71.80**	**-98.20**
3	**Jharkhand**						
	1. BAU, Kanke	BIRSA BOLD-1	9.95	1.76	-	1.76	-8.19

1	2	3	4	5	6	7	8
4	**Karnataka**						
	1. UAS, Dharwad	GPBD 5	68.00	50.00	50.00	100.00	32.00
		TG-39	30.00	7.00	50.00	57.00	27.00
		GPBD-4 (Vikas)	525.00	600.00	-	600.00	75.00
		TG-37A	103.00	80.00	60.00	140.00	37.00
		TAG-24	265.00	44.00	450.00	494.00	229.00
		Vasundhara	4.00	3.00	5.00	8.00	4.00
		G-2-52	800.00	900.00	100.00	1000.00	200.00
		Total	**1795.00**	**1684.00**	**715.00**	**2399.00**	**604.00**
5	**Madhya Pradesh**						
	1. RVSKVV, Gwalior	JGN-23	1.00	0.45	-	0.45	-0.55
6	**Maharashtra**						
	1. BARC, Mumbai	TG-51	59.50	-	60.00	60.00	0.50
		TG-38 (TG-38 B)	336.00	-	340.00	340.00	4.00
		TPG-41	1.00	-	1.00	1.00	0.00
		Total	**396.50**	**0.00**	**401.00**	**401.00**	**4.50**
	2. MAU, Latur	TLG-45	5.00	1.75	-	1.75	-3.25
	3. MPKV, Jalgaon	JL-501	50.00	-	30.00	30.00	-20.00
	4. MPKV, Rahuri	PHULE UNNATI	5.00	5.00	-	5.00	0.00
7	**Odisha**						
	1. OUAT, Bhubaneswar	ICGV-91114	400.00	-	400.00	400.00	0.00
8	**Punjab**						
	1. PAU, Ludhiana	SG-99	1.05	1.50	-	1.50	0.45
9	**Rajasthan**						
	1. SKNAU, Durgapura	Raj Mungfali - 2	60.00	50.00	-	50.00	-10.00
		Raj Mongfali-1	55.00	32.90	-	32.90	-22.10
		RG 425	10.00	11.00	-	11.00	1.00
		Total	**125.00**	**93.90**	**0.00**	**93.90**	**-31.10**
	2. SKRAU, Bikaner	HNG-123	56.00	60.00	-	60.00	4.00
		HNG-69	10.00	10.00	-	10.00	0.00
		Mallika	4.00	4.00	-	4.00	0.00
		HNG-10	0.40	4.00	-	4.00	3.60
		Total	**70.40**	**78.00**	**0.00**	**78.00**	**7.60**
10	**Tamil Nadu**						
	1. TNAU, Coimbatore	CO-7	10.00	-	5.00	5.00	-5.00
	2. TNAU, Vriddhachalam	ICGV-00348	5.00	-	5.00	5.00	0.00
11	**Uttar Pradesh**						
	CSAUAT, Mainpuri	Divya	5.00	3.00	-	3.00	-2.00
	Grand Total		**10198.90**	**4865.36**	**7648.00**	**12513.36**	**2314.46**