

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 25 locations for Spanish Bunch trial; and 20 locations for Virginia trial distributed over five eco-geographical zones.

Zone I (4)	Mainpuri, Bikaner, Durgapura, Ludhiana*
Zone II (5)	Junagadh, Amreli*, Talod*, Udaipur, Pratapgarh*
Zone III (6)	Gwalior, Jalgaon, Akola*, Shirgaon, Latur*, Raigarh*
Zone IV (3)	Bhubaneshwar, Jhargram, Imphal
Zone V (9)	Vridhachalam, Kadiri, Tirupati, Dharwad, Raichur, Tindivanam, Digraj*, Hiriya and Palem

* Voluntary centres

The trial sets for *kharif* 2018 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* 2017 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* 2019, 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* 2018, 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 were considered. The performance of the entry over locations of the zone and years were also 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. For identification of a HOVT

entry, performance of the entry over locations (in respect of oleate content) along with yield superiority over popular checks and pests and disease reactions were considered together.

INITIAL VARIETAL TRIAL STAGE-I

Habit Group: Spanish Bunch

In this trial, 16 entries were tested in all the five zones along with respective zonal checks (**Table R**). The different checks used in this trial are presented below. The trial was allotted to 25 centres and all of them have conducted and reported the trial data. 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* 2019, 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 analyses to be carried out and presented in the next workshop.

Table R. The zonal check varieties used in *kharif* 2018 in IVT stage-I trials (Habit group: Spanish bunch)

Zone →	I	II	III	IV	V
Check variety→	TAG 24 TG 37A	TG 37A SG 99 JL 501 GJG 9	TAG 24 GG 8 AK 159 JL 776	Girnar 3 GPBD 5 R 2001-2	R 2001-2 GPBD 4 R 2001-3 GJG 32

Habit Group: Virginia

In this trial, 10 entries were tested in four zones (Except for zone III) with respective zonal checks (**Table S**). The trial was allotted to 20 centres. All the centres conducted the trial and have reported the data. 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* 2019, 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 of the pooled analyses to be carried out and presented in the next workshop.

Table S. The zonal check varieties used in *kharif* 2018 in IVT stage-I trials (habit group: Virginia)

Zone →	I	II	IV	V
Check variety→	HNG 69 HNG 123 Raj. Mungfali-1 Raj. Mungfali-3	GG 20 GJG 22 KDG 123 KDG 128	KDG 123 GJG 18 Raj Mungfali-2 GJG 19	KDG 123 KDG 128 GG 16

ZONE I

Table 1a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2018
Pod yield (kg/ha)

S.N.	Entry	Mainpuri	Durgapura	Bikaner	Ludhiana	Mean	R
1	ISK I 2018-1	2084	3987	3129	3381	3145	6
2	ISK I 2018-2	1968	2674	3000	4924	3142	7
3	ISK I 2018-3	1910	2286	2093	1771	2015	18
4	ISK I 2018-4	2662	4011	2730	4048	3363	4
5	ISK I 2018-5	2546	3756	2053	3529	2971	11
6	ISK I 2018-6	3183	3218	2957	3015	3093	9
7	ISK I 2018-7	2431	3594	3300	3808	3283	5
8	ISK I 2018-8	2546	2645	2650	2075	2479	17
9	ISK I 2018-9	1852	3710	2690	2447	2675	15
10	ISK I 2018-10	1968	4526	3207	4108	3452	2
11	ISK I 2018-12	1910	2737	2883	4271	2950	12
12	ISK I 2018-13	2084	2929	2730	2475	2555	16
13	ISK I 2018-14	2431	3426	2577	2630	2766	13
14	ISK I 2018-15	2199	4248	2897	4154	3375	3
15	ISK I 2018-16	1794	3947	2337	4383	3115	8
16	ISK I 2018-18	2083	3258	3004	2667	2753	14
17	ISK I 2018-22	2315	3588	2690	3359	2988	10
18	ISK I 2018-23	2222	4260	2970	4381	3458	1
	GM	2233	3489	2772	3413	2977	
	S.E. Diff. Mean	87.1	299.0	390.5	265.3	283.8	
	CD at 5%	175.1	601.4	NS	533.5	556.3	
	CV%	5.5	12.1	20.0	11.1	13.5	

Table 1b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2018
Kernel yield (kg/ha)

S.N.	Entry	Mainpuri	Durgapura	Bikaner	Ludhiana	Mean	R
1	ISK I 2018-1	1460	2562	2067	2471	2140	9
2	ISK I 2018-2	1334	1950	1846	3494	2156	7
3	ISK I 2018-3	1337	1634	1275	1163	1352	18
4	ISK I 2018-4	1890	2907	1746	2906	2362	3
5	ISK I 2018-5	1783	2722	1294	2403	2051	11
6	ISK I 2018-6	2292	2248	2022	2159	2180	5
7	ISK I 2018-7	1652	2597	2387	2764	2350	4
8	ISK I 2018-8	1706	1812	1809	1506	1708	17
9	ISK I 2018-9	1297	2717	1865	1811	1923	13
10	ISK I 2018-10	1358	3294	2310	3027	2497	1
11	ISK I 2018-12	1338	1814	1979	2881	2003	12
12	ISK I 2018-13	1459	2139	1968	1803	1842	16
13	ISK I 2018-14	1677	2314	1591	1847	1857	14
14	ISK I 2018-15	1495	2843	1650	2685	2168	6
15	ISK I 2018-16	1257	2735	1492	3137	2155	8
16	ISK I 2018-18	1438	2132	1912	1937	1855	15
17	ISK I 2018-22	1643	2675	1768	2296	2096	10
18	ISK I 2018-23	1556	2984	2035	3102	2419	2
	GM	1554	2449	1834	2411	2062	
	S.E. Diff. Mean	67.9	208.8	325.5	205.0	221.5	
	CD at 5%	136.6	419.8	NS	412.3	434.1	
	CV%	6.2	12.1	25.1	12.0	15.2	

Table 1c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2018

Ancillary traits

S.N.	Entry	Trait	Mainpuri	Durgapura	Bikaner	Ludhiana	Mean
1	ISK I 2018-1	PS	271	320	153	271	254
		D	105	110	-	108	108
		S	70	64	66	73	68
		HKW	33	42	-	42	39
		SMK	90	93	-	79	87
		O	48	51	-	-	50
		P	25	25	-	-	25
2	ISK I 2018-2	PS	306	317	167	281	268
		D	100	110	-	108	106
		S	68	73	62	71	68
		HKW	37	55	-	44	45
		SMK	88	97	-	82	89
		O	46	49	-	-	48
		P	26	27	-	-	27
3	ISK I 2018-3	PS	282	308	152	294	259
		D	102	107	-	104	104
		S	70	72	62	66	67
		HKW	42	38	-	36	39
		SMK	94	95	-	67	85
		O	45	49	-	-	47
		P	27	27	-	-	27
4	ISK I 2018-4	PS	312	317	123	287	260
		D	110	112	-	106	109
		S	71	73	64	72	70
		HKW	35	56	-	55	49
		SMK	95	93	-	83	90
		O	47	51	-	-	49
		P	26	26	-	-	26
5	ISK I 2018-5	PS	310	321	129	288	262
		D	108	108	-	113	110
		S	70	73	65	68	69
		HKW	43	59	-	46	49
		SMK	94	97	-	67	86
		O	50	49	-	-	49
		P	25	27	-	-	26
6	ISK I 2018-6	PS	299	328	151	296	268
		D	104	115	-	110	110
		S	72	70	69	72	71
		HKW	36	36	-	35	36
		SMK	97	88	-	69	85
		O	47	48	-	-	47
		P	26	27	-	-	26

S.N.	Entry	Trait	Mainpuri	Durgapura	Bikaner	Ludhiana	Mean
7	ISK I 2018-7	PS	326	323	150	298	274
		D	100	108	-	107	105
		S	68	72	72	73	71
		HKW	41	47	-	42	43
		SMK	90	94	-	81	88
		O	46	47	-	-	47
		P	27	28	-	-	27
8	ISK I 2018-8	PS	319	325	131	250	256
		D	106	107	-	105	106
		S	67	69	69	73	69
		HKW	40	41	-	38	40
		SMK	92	89	-	60	80
		O	45	46	-	-	46
		P	26	28	-	-	27
9	ISK I 2018-9	PS	273	323	141	269	251
		D	104	110	-	106	107
		S	70	73	68	74	71
		HKW	36	41	-	40	39
		SMK	94	91	-	72	86
		O	47	49	-	-	48
		P	26	27	-	-	27
10	ISK I 2018-10	PS	299	317	143	312	268
		D	103	108	-	104	105
		S	69	73	72	74	72
		HKW	47	50	-	47	48
		SMK	95	90	-	80	88
		O	48	52	-	-	50
		P	25	26	-	-	26
11	ISK I 2018-12	PS	301	321	145	311	269
		D	108	107	-	112	109
		S	70	66	69	67	68
		HKW	40	42	-	37	40
		SMK	90	88	-	64	81
		O	44	47	-	-	45
		P	28	27	-	-	28
12	ISK I 2018-13	PS	306	325	138	251	255
		D	104	114	-	114	110
		S	70	73	71	73	72
		HKW	31	37	-	37	35
		SMK	89	87	-	76	84
		O	46	47	-	-	46
		P	27	28	-	-	27

S.N.	Entry	Trait	Mainpuri	Durgapura	Bikaner	Ludhiana	Mean
13	ISK I 2018-14	PS	310	327	124	259	255
		D	110	115	-	113	112
		S	69	68	63	70	67
		HKW	37	40	-	40	39
		SMK	90	92	-	63	82
		O	47	48	-	-	47
		P	26	27	-	-	27
14	ISK I 2018-15	PS	317	322	146	304	272
		D	100	114	-	114	109
		S	68	67	56	65	64
		HKW	33	40	-	39	37
		SMK	90	88	-	66	81
		O	45	47	-	-	46
		P	27	28	-	-	27
15	ISK I 2018-16	PS	317	322	120	297	264
		D	106	115	-	104	108
		S	70	69	64	71	69
		HKW	45	52	-	50	49
		SMK	90	91	-	85	89
		O	46	48	-	-	47
		P	26	27	-	-	26
16	ISK I 2018-18	PS	280	322	143	255	250
		D	108	115	-	106	110
		S	69	65	63	73	68
		HKW	35	39	-	39	38
		SMK	95	94	-	69	86
		O	48	50	-	-	49
		P	25	27	-	-	26
17	ISK I 2018-22	PS	317	321	160	266	266
		D	104	109	-	112	108
		S	71	75	66	68	70
		HKW	37	49	-	37	41
		SMK	95	92	-	76	87
		O	47	49	-	-	48
		P	26	27	-	-	26
18	ISK I 2018-23	PS	308	326	141	302	269
		D	101	112	-	101	105
		S	70	70	70	71	70
		HKW	42	48	-	42	44
		SMK	90	90	-	74	85
		O	47	48	-	-	47
		P	26	27	-	-	27
Final plant stand (000/ha)							
G.M			303	321	142	283	262
S.E. Diff. Mean			5.9	3.6	10.3	5.4	6.8
CD at 5%			11.9	7.3	20.6	10.8	13.2
CV %			2.8	1.6	10.2	2.7	3.7

ZONE II

Table 2a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2018

Pod yield (kg/ha)							
S.N.	Entry	Junagadh	Amreli	Talod	Udaipur	Mean	R
1	ISK I 2018-1	2792	1894	1933	3993	2653	11
2	ISK I 2018-2	2530	1810	3380	3585	2826	7
3	ISK I 2018-3	2692	1227	1505	4809	2558	14
4	ISK I 2018-4	2887	1578	2153	3605	2556	15
5	ISK I 2018-5	3089	1601	2940	3473	2776	9
6	ISK I 2018-6	3435	1856	2674	3825	2948	4
7	ISK I 2018-7	2257	1520	3299	3687	2691	11
8	ISK I 2018-8	2824	1104	1771	3195	2224	21
9	ISK I 2018-9	2541	1559	2003	3414	2379	20
10	ISK I 2018-10	3302	2299	3171	3785	3139	1
11	ISK I 2018-12	2975	1370	2002	3762	2527	17
12	ISK I 2018-13	2859	1316	2963	3140	2570	13
13	ISK I 2018-14	3019	1451	1620	3866	2489	18
14	ISK I 2018-15	2651	1690	2894	4260	2874	5
15	ISK I 2018-16	2907	1030	2604	3678	2555	16
16	ISK I 2018-18	3926	1308	2072	2587	2473	19
17	ISK I 2018-23	2617	1802	3356	4268	3011	2
18	ISK I 2018-24	2946	1466	3426	4126	2991	3
19	ISK I 2018-25	2577	1894	3194	3750	2854	6
20	ISK I 2018-26	3078	1740	2477	3924	2805	8
	GM	2895	1576	2572	3737	2695	
	S.E. Diff. Mean	208.2	122.5	257.7	373.3	256.9	
	CD at 5%	419.5	246.8	519.3	752.1	503.6	
	CV%	10.2	11.0	14.2	14.1	13.5	

Table 2b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2018

Kernel yield (kg/ha)							
S.N.	Entry	Junagadh	Amreli	Talod	Udaipur	Mean	R
1	ISK I 2018-1	2110	1213	1370	2885	1895	8
2	ISK I 2018-2	1860	954	2086	2510	1853	10
3	ISK I 2018-3	2011	739	885	3408	1761	13
4	ISK I 2018-4	2134	899	1230	2610	1718	14
5	ISK I 2018-5	2298	964	2031	2503	1949	6
6	ISK I 2018-6	2599	1118	1783	2674	2044	2
7	ISK I 2018-7	1691	872	2249	2629	1860	9
8	ISK I 2018-8	2019	657	1252	2290	1555	20
9	ISK I 2018-9	1914	964	1259	2396	1633	19
10	ISK I 2018-10	2475	1553	2107	2615	2188	1
11	ISK I 2018-12	2161	834	1245	2633	1718	14
12	ISK I 2018-13	2141	829	2018	2152	1785	12
13	ISK I 2018-14	2233	869	986	2635	1681	17
14	ISK I 2018-15	1940	843	1656	2897	1834	11
15	ISK I 2018-16	2065	591	1656	2540	1713	16
16	ISK I 2018-18	2758	812	1317	1745	1658	18
17	ISK I 2018-23	1974	1021	2147	3022	2041	3
18	ISK I 2018-24	2141	850	2130	2826	1987	4
19	ISK I 2018-25	1999	1213	1822	2565	1900	7
20	ISK I 2018-26	2301	1140	1626	2731	1950	5
	GM	2141	947	1643	2613	1836	
	S.E. Diff. Mean	155.9	76.9	193.8	269.8	187.5	
	CD at 5%	314.2	155.0	390.5	543.6	367.4	
	CV%	10.3	11.5	16.7	14.6	14.4	

Table 2c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2018

Ancillary traits

S.N.	Entry	Trait	Junagadh	Amreli	Talod	Udaipur	Mean
1	ISK I 2018-1	PS	322	213	277	331	286
		D	92	113	118	99	105
		S	76	64	71	72	71
		HKW	40	35	42	45	40
		SMK	88	99	65	90	85
		O	53	52	54	51	53
		P	26	26	25	26	26
2	ISK I 2018-2	PS	325	212	300	333	293
		D	91	109	117	97	104
		S	74	53	61	70	64
		HKW	49	37	48	51	46
		SMK	89	94	43	92	80
		O	47	51	53	48	50
		P	28	27	25	27	27
3	ISK I 2018-3	PS	328	211	299	331	292
		D	90	111	118	95	104
		S	75	60	59	71	66
		HKW	42	34	35	50	40
		SMK	88	96	62	91	84
		O	49	51	49	48	49
		P	27	27	27	28	27
4	ISK I 2018-4	PS	325	210	296	329	290
		D	90	108	117	99	104
		S	74	57	57	73	65
		HKW	60	34	59	55	52
		SMK	92	92	28	91	76
		O	49	49	52	51	50
		P	26	28	26	26	26
5	ISK I 2018-5	PS	314	215	280	330	285
		D	90	107	118	101	104
		S	75	60	69	72	69
		HKW	51	36	57	53	49
		SMK	99	97	72	92	90
		O	50	52	52	49	51
		P	27	26	26	27	26
6	ISK I 2018-6	PS	323	210	300	328	290
		D	92	105	116	102	104
		S	76	60	67	70	68
		HKW	49	31	43	42	41
		SMK	92	98	79	89	89
		O	51	55	55	49	52
		P	26	25	24	27	26
7	ISK I 2018-7	PS	321	215	293	330	290
		D	92	104	117	101	104
		S	75	57	68	72	68
		HKW	45	37	48	52	46
		SMK	95	99	70	92	89
		O	47	51	49	48	49
		P	27	27	27	28	27

S.N.	Entry	Trait	Junagadh	Amreli	Talod	Udaipur	Mean
8	ISK I 2018-8	PS	322	207	300	330	290
		D	93	104	116	101	103
		S	72	59	77	72	70
		HKW	50	36	47	50	46
		SMK	88	99	77	91	88
		O	46	49	49	47	48
		P	28	28	26	28	27
9	ISK I 2018-9	PS	318	209	289	330	287
		D	90	111	116	104	105
		S	75	62	63	70	68
		HKW	45	28	31	49	38
		SMK	93	97	70	92	88
		O	47	51	47	48	48
		P	27	26	28	27	27
10	ISK I 2018-10	PS	322	215	285	331	288
		D	90	106	116	100	103
		S	75	68	67	69	70
		HKW	51	37	40	53	45
		SMK	96	97	89	92	93
		O	50	53	51	49	51
		P	27	25	26	27	26
11	ISK I 2018-12	PS	314	204	247	329	273
		D	92	108	118	101	105
		S	73	61	62	70	66
		HKW	52	34	37	53	44
		SMK	96	97	73	93	90
		O	47	49	48	47	48
		P	27	27	28	28	28
12	ISK I 2018-13	PS	325	207	291	329	288
		D	92	114	118	100	106
		S	75	63	68	69	69
		HKW	42	27	38	51	40
		SMK	90	93	70	90	86
		O	47	49	52	48	49
		P	28	27	25	28	27
13	ISK I 2018-14	PS	323	214	271	332	285
		D	94	113	118	100	106
		S	74	60	62	68	66
		HKW	44	29	40	52	41
		SMK	93	96	37	91	79
		O	49	49	51	49	49
		P	27	28	27	27	27
14	ISK I 2018-15	PS	330	212	299	330	293
		D	91	114	117	103	106
		S	73	50	57	68	62
		HKW	43	28	35	46	38
		SMK	96	97	76	89	89
		O	48	48	50	47	48
		P	27	29	26	28	28

S.N.	Entry	Trait	Junagadh	Amreli	Talod	Udaipur	Mean
15	ISK I 2018-16	PS	304	196	195	329	256
		D	94	107	118	99	105
		S	71	57	62	69	65
		HKW	46	32	42	55	44
		SMK	80	96	61	91	82
		O	50	50	52	50	51
		P	27	27	25	26	26
16	ISK I 2018-18	PS	303	175	189	329	249
		D	94	112	118	107	108
		S	70	62	63	68	66
		HKW	37	32	38	46	38
		SMK	83	97	66	89	84
		O	52	54	51	52	52
		P	26	25	26	26	26
17	ISK I 2018-23	PS	322	210	282	330	286
		D	90	112	118	101	105
		S	75	57	64	71	67
		HKW	48	32	45	53	44
		SMK	93	99	68	93	88
		O	48	50	49	49	49
		P	27	27	28	27	27
18	ISK I 2018-24	PS	317	208	299	333	289
		D	92	112	117	104	106
		S	73	58	62	69	65
		HKW	53	38	49	55	49
		SMK	91	99	66	92	87
		O	50	51	51	51	50
		P	27	26	26	26	26
19	ISK I 2018-25	PS	310	215	280	332	284
		D	92	111	118	102	106
		S	78	64	58	69	67
		HKW	40	29	39	47	39
		SMK	87	96	81	90	89
		O	48	50	52	48	49
		P	27	27	25	27	27
20	ISK I 2018-25	PS	322	211	284	333	287
		D	91	106	118	104	105
		S	75	65	66	70	69
		HKW	51	34	39	46	42
		SMK	95	98	84	93	93
		O	47	49	52	46	48
		P	28	28	25	28	27
Final plant stand (000/ha)							
	G.M		320	208	278	330	284
	S.E. Diff. Mean		6.2	3.8	18.0	2.8	9.8
	CD at 5%		12.4	7.7	36.2	NS	19.2
	CV %		2.7	2.6	9.2	1.2	4.9

ZONE III

Table 3a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2018

Pod yield (kg/ha)									
S.N.	Entry	Gwalior	Akola	Jalgaon	Latur	Raigarh	Shirgaon	Mean	R
1	ISK I 2018-1	4768	1160	3467	3237	2285	2663	2930	4
2	ISK I 2018-2	4444	1048	2742	1711	1921	2324	2365	19
3	ISK I 2018-3	4075	1275	1738	1994	1789	2689	2260	20
4	ISK I 2018-4	5075	1320	2733	1891	2291	2911	2704	10
5	ISK I 2018-5	3696	1246	3448	2762	2191	3511	2809	6
6	ISK I 2018-6	5914	813	2082	4297	1430	3850	3064	3
7	ISK I 2018-7	4740	1475	3258	2482	1499	3913	2895	5
8	ISK I 2018-8	4644	1082	2332	2370	2073	2663	2527	16
9	ISK I 2018-9	4878	1368	3786	2114	1862	2644	2775	7
10	ISK I 2018-10	5668	1230	3481	2988	2127	4351	3308	1
11	ISK I 2018-12	4828	1233	2737	2443	2280	2749	2712	9
12	ISK I 2018-13	4808	1206	1823	2065	2581	3489	2662	12
13	ISK I 2018-14	3923	1211	2418	1884	2164	4130	2622	13
14	ISK I 2018-15	4417	1436	2664	2299	2446	3387	2775	8
15	ISK I 2018-16	5272	1116	2802	1413	1903	2258	2461	17
16	ISK I 2018-18	4984	861	2473	3641	1518	2218	2616	14
17	ISK I 2018-22	4587	1147	3184	2128	2094	2869	2668	11
18	ISK I 2018-27	4084	1236	2714	2590	2245	2419	2548	15
19	ISK I 2018-28	3883	1117	2415	2280	1910	2829	2406	18
20	ISK I 2018-29	4544	1247	3488	4120	2137	4250	3298	2
	GM	4662	1191	2789	2535	2037	3106	2720	
	S.E. Diff. Mean	557.7	118.4	232.4	340.8	447.0	310.1	363.3	
	CD at 5%	1123.7	238.6	468.2	686.7	NS	624.9	712.0	
	CV%	16.9	14.4	11.8	19.0	31.0	14.1	18.9	

Table 3b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2018

Kernel yield (kg/ha)									
S.N.	Entry	Gwalior	Akola	Jalgaon	Latur	Raigarh	Shirgaon	Mean	R
1	ISK I 2018-1	3248	735	2323	2274	1619	2084	2047	4
2	ISK I 2018-2	2944	676	1339	1093	1308	1789	1525	19
3	ISK I 2018-3	2664	826	1083	1350	1238	1918	1513	20
4	ISK I 2018-4	3380	843	1750	1292	1530	2194	1832	11
5	ISK I 2018-5	2358	867	2242	1797	1579	2536	1897	6
6	ISK I 2018-6	4002	517	1495	3150	816	2710	2115	3
7	ISK I 2018-7	3173	966	2073	1787	871	2707	1930	5
8	ISK I 2018-8	3055	735	1625	1727	1313	1874	1722	16
9	ISK I 2018-9	3267	898	2420	1506	1244	1932	1878	7
10	ISK I 2018-10	3766	872	2293	2174	1388	3290	2297	1
11	ISK I 2018-12	3242	766	1801	1742	1446	2007	1834	9
12	ISK I 2018-13	3110	796	1260	1499	1748	2583	1833	10
13	ISK I 2018-14	2566	792	1680	1346	1477	3074	1823	12
14	ISK I 2018-15	2903	752	1638	1501	1553	2469	1803	13
15	ISK I 2018-16	3442	708	1774	991	1213	1554	1614	18
16	ISK I 2018-18	3252	530	1673	2587	952	1623	1770	15
17	ISK I 2018-22	3065	780	2040	1454	1472	2266	1846	8
18	ISK I 2018-27	2670	833	1934	1831	1490	1890	1775	14
19	ISK I 2018-28	2533	810	1712	1733	1217	2165	1695	17
20	ISK I 2018-29	2848	762	2331	3121	1582	3059	2284	2
	GM	3074	773	1824	1798	1353	2286	1851	
	S.E. Diff. Mean	366.1	227.3	150.9	256.2	326.3	247.7	257.4	
	CD at 5%	737.7	457.9	304.0	516.2	NS	499.0	504.6	
	CV%	16.8	15.7	11.7	20.2	34.1	15.3	19.7	

Table 3c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2018
Ancillary traits

S.N.	Entry	Trait	Gwalior	Akola	Jalgaon	Latur	Raigarh	Shirgaon	Mean
1	ISK I 2018-1	PS	334	229	244	286	271	320	281
		D	108	117	109	130	105	108	113
		S	68	63	67	70	73	78	70
		HKW	36	27	25	38	40	39	34
		SMK	91	87	95	86	90	77	87
		O	52	48	54	49	48	49	50
		P	24	28	25	26	25	26	25
2	ISK I 2018-2	PS	330	202	212	296	276	307	271
		D	110	118	112	117	108	109	112
		S	67	64	49	64	68	77	65
		HKW	37	29	25	34	41	33	33
		SMK	93	89	94	86	91	65	86
		O	49	48	49	48	48	47	48
		P	26	28	27	27	25	28	27
3	ISK I 2018-3	PS	336	257	196	290	259	317	276
		D	109	117	107	126	106	107	112
		S	66	65	62	68	68	71	67
		HKW	36	34	22	38	40	45	36
		SMK	89	90	93	85	90	73	87
		O	47	50	52	50	47	45	49
		P	26	27	26	26	26	28	27
4	ISK I 2018-4	PS	339	259	207	275	272	308	277
		D	108	116	110	125	104	107	112
		S	67	64	64	69	73	75	68
		HKW	42	37	32	43	41	47	40
		SMK	93	93	94	87	91	77	89
		O	50	49	52	48	46	46	48
		P	25	27	25	27	25	27	26
5	ISK I 2018-5	PS	332	223	192	290	263	311	268
		D	109	119	107	115	106	107	110
		S	64	70	65	65	72	72	68
		HKW	44	39	29	41	43	47	40
		SMK	91	91	93	87	93	79	89
		O	49	51	56	49	49	49	51
		P	26	26	23	27	25	27	25
6	ISK I 2018-6	PS	336	191	223	284	249	313	266
		D	109	115	113	129	111	106	114
		S	68	64	72	73	57	71	67
		HKW	34	27	29	47	35	41	36
		SMK	91	91	97	89	85	79	88
		O	50	49	54	51	49	48	50
		P	25	27	25	25	25	27	26
7	ISK I 2018-7	PS	329	243	216	300	263	315	277
		D	110	114	110	124	112	108	113
		S	67	66	64	72	58	68	66
		HKW	39	30	27	39	30	34	33
		SMK	94	90	93	88	80	72	86
		O	47	48	51	48	46	44	47
		P	27	28	25	27	26	29	27

S.N.	Entry	Trait	Gwalior	Akola	Jalgaon	Latur	Raigarh	Shirgaon	Mean
8	ISK I 2018-8	PS	334	243	213	289	283	318	280
		D	110	116	108	129	106	110	113
		S	66	67	70	73	62	70	68
		HKW	36	33	31	45	42	39	38
		SMK	92	93	96	90	92	64	88
		O	46	46	51	48	46	44	47
		P	27	29	26	27	26	29	27
9	ISK I 2018-9	PS	330	243	214	271	265	321	274
		D	108	116	114	128	111	106	114
		S	67	66	64	72	67	74	68
		HKW	35	25	29	37	39	39	34
		SMK	91	69	94	87	89	54	81
		O	48	46	52	47	46	45	48
		P	26	29	24	27	25	28	27
10	ISK I 2018-10	PS	339	240	208	282	283	310	277
		D	109	119	107	129	106	109	113
		S	67	71	66	73	65	76	70
		HKW	42	37	28	46	42	49	40
		SMK	91	91	96	90	92	80	90
		O	50	49	55	53	49	48	51
		P	26	26	24	24	25	27	25
11	ISK I 2018-12	PS	336	249	194	287	269	311	274
		D	112	118	108	126	106	106	113
		S	67	62	66	71	61	73	67
		HKW	33	32	31	43	42	42	37
		SMK	94	88	94	89	92	84	90
		O	48	46	52	47	46	45	47
		P	26	29	25	27	26	28	27
12	ISK I 2018-13	PS	333	218	200	303	270	309	272
		D	109	114	110	128	106	108	112
		S	65	66	69	73	67	74	69
		HKW	33	25	35	37	40	39	35
		SMK	96	88	94	88	90	75	88
		O	45	47	49	48	46	45	47
		P	27	28	27	26	25	28	27
13	ISK I 2018-14	PS	333	226	209	283	276	313	273
		D	111	118	110	126	108	106	113
		S	66	66	70	72	68	74	69
		HKW	34	30	23	41	41	43	35
		SMK	89	91	94	85	91	82	89
		O	47	48	50	50	46	47	48
		P	26	28	27	26	25	27	27
14	ISK I 2018-15	PS	334	265	221	276	268	311	279
		D	112	118	113	115	105	107	112
		S	65	52	62	65	66	73	64
		HKW	38	24	24	33	37	38	32
		SMK	92	93	96	86	87	63	86
		O	47	47	50	48	46	46	47
		P	27	29	27	27	26	28	27

S.N.	Entry	Trait	Gwalior	Akola	Jalgaon	Latur	Raigarh	Shirgaon	Mean
15	ISK I 2018-16	PS	329	197	208	218	270	304	254
		D	113	113	109	127	114	107	114
		S	65	63	63	70	64	69	66
		HKW	41	37	30	46	44	44	40
		SMK	86	91	93	89	94	71	87
		O	48	51	49	50	49	46	49
		P	26	27	27	26	25	27	26
16	ISK I 2018-18	PS	337	143	149	212	262	280	230
		D	110	118	113	127	108	107	114
		S	65	61	68	71	64	73	67
		HKW	40	27	29	44	37	40	36
		SMK	88	92	94	90	87	62	85
		O	49	49	53	53	47	47	50
		P	26	27	25	25	26	27	26
17	ISK I 2018-22	PS	334	188	193	277	276	315	264
		D	109	114	108	120	110	106	111
		S	67	68	64	68	71	79	70
		HKW	35	29	25	35	42	45	35
		SMK	90	90	94	87	92	56	85
		O	48	51	54	49	50	47	50
		P	26	26	24	26	25	28	26
18	ISK I 2018-27	PS	333	211	193	264	268	304	262
		D	110	116	107	125	105	109	112
		S	66	67	71	71	66	78	70
		HKW	33	31	29	37	38	35	34
		SMK	92	92	94	87	88	64	86
		O	49	54	54	53	51	49	52
		P	26	24	24	24	25	27	25
19	ISK I 2018-28	PS	334	219	197	267	269	308	266
		D	108	115	108	115	112	107	111
		S	65	72	71	76	64	76	71
		HKW	37	34	30	39	39	40	36
		SMK	91	91	96	91	89	55	86
		O	47	49	53	48	46	45	48
		P	27	27	25	26	26	28	27
20	ISK I 2018-29	PS	333	236	185	285	276	310	271
		D	110	116	113	128	106	108	113
		S	63	61	67	76	74	72	69
		HKW	33	27	27	45	38	39	35
		SMK	90	88	94	90	88	53	84
		O	49	53	53	54	48	47	51
		P	25	25	24	24	26	27	25
Final plant stand (000/ha)									
	G.M		334	224	204	277	269	310	270
	S.E. Diff. Mean		4.3	14.6	24.7	15.7	4.0	7.4	13.9
	CD at 5%		NS	29.4	NS	31.6	8.0	15.0	27.2
	CV %		1.8	9.2	17.2	8.0	2.1	3.4	7.3

ZONE IV

Table 4a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2018

Pod yield (kg/ha)						
S.N.	Entry	Bhubaneswar	Imphal	Mohanpur	Mean	R
1	ISK I 2018-1	2141	4090	2685	2972	11
2	ISK I 2018-2	2547	3663	2547	2919	12
3	ISK I 2018-3	1910	3572	2688	2723	16
4	ISK I 2018-4	2518	3883	3331	3244	2
5	ISK I 2018-5	2026	2385	2581	2331	19
6	ISK I 2018-6	2257	4065	2659	2994	10
7	ISK I 2018-7	2344	4044	2740	3043	8
8	ISK I 2018-8	1794	3252	2619	2555	17
9	ISK I 2018-9	1881	4420	3082	3128	5
10	ISK I 2018-10	2489	3973	2821	3094	6
11	ISK I 2018-12	2199	3520	2711	2810	15
12	ISK I 2018-13	1968	4252	2885	3035	9
13	ISK I 2018-14	2112	3698	3776	3195	3
14	ISK I 2018-15	1939	2725	2837	2500	18
15	ISK I 2018-16	1678	3975	2844	2832	13
16	ISK I 2018-18	1997	3834	2610	2814	14
17	ISK I 2018-30	2228	3890	3360	3159	4
18	ISK I 2018-31	1736	3393	4005	3045	7
19	ISK I 2018-32	2286	4020	4274	3527	1
	GM	2108	3719	3003	2943	
	S.E. Diff. Mean	115.6	404.3	207.9	270.8	
	CD at 5%	233.0	814.6	419.0	530.9	
	CV%	7.8	15.4	9.8	13.0	

Table 4b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2018

Kernel yield (kg/ha)						
S.N.	Entry	Bhubaneswar	Imphal	Mohanpur	Mean	R
1	ISK I 2018-1	1480	2892	2017	2130	8
2	ISK I 2018-2	1678	2607	1838	2041	12
3	ISK I 2018-3	1261	2612	1879	1917	15
4	ISK I 2018-4	1727	2805	2374	2302	2
5	ISK I 2018-5	1309	1780	1806	1632	19
6	ISK I 2018-6	1441	2903	1954	2099	10
7	ISK I 2018-7	1644	2935	1971	2183	7
8	ISK I 2018-8	1156	2352	1924	1811	17
9	ISK I 2018-9	1176	3286	2299	2254	4
10	ISK I 2018-10	1592	2965	2115	2224	5
11	ISK I 2018-12	1496	2583	1884	1988	14
12	ISK I 2018-13	1215	3057	2014	2095	11
13	ISK I 2018-14	1395	2722	2744	2287	3
14	ISK I 2018-15	1201	1915	1893	1670	18
15	ISK I 2018-16	1090	2954	1949	1998	13
16	ISK I 2018-18	1266	2648	1838	1917	15
17	ISK I 2018-30	1404	2796	2397	2199	6
18	ISK I 2018-31	1122	2395	2796	2104	9
19	ISK I 2018-32	1588	2801	3007	2465	1
	GM	1381	2685	2142	2069	
	S.E. Diff. Mean	84.8	294.6	155.4	198.4	
	CD at 5%	170.9	593.6	313.2	388.9	
	CV%	8.7	15.5	10.3	13.6	

Table 4c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2018

Ancillary traits

S.N.	Entry	Trait	Bhubaneswar	Imphal	Mohanpur	Mean
1	ISK I 2018-1	PS	294	277	257	276
		D	110	111	106	109
		S	69	71	75	72
		HKW	30	50	42	41
		SMK	81	67	93	81
		O	48	49	47	48
		P	27	25	25	26
2	ISK I 2018-2	PS	293	304	277	291
		D	112	107	102	107
		S	66	71	72	70
		HKW	27	48	42	39
		SMK	81	68	91	80
		O	48	47	46	47
		P	27	27	27	27
3	ISK I 2018-3	PS	297	283	271	283
		D	114	108	102	108
		S	66	73	70	70
		HKW	28	47	43	39
		SMK	80	74	94	83
		O	47	45	45	46
		P	28	27	27	27
4	ISK I 2018-4	PS	302	234	255	264
		D	114	111	103	109
		S	69	72	71	71
		HKW	36	59	44	46
		SMK	81	72	91	81
		O	46	46	46	46
		P	28	26	26	27
5	ISK I 2018-5	PS	304	281	253	280
		D	112	106	106	108
		S	65	75	70	70
		HKW	32	49	45	42
		SMK	80	74	90	81
		O	48	45	47	47
		P	27	27	26	27
6	ISK I 2018-6	PS	302	255	262	273
		D	110	107	102	106
		S	64	71	73	70
		HKW	29	45	42	39
		SMK	80	69	95	81
		O	51	51	47	50
		P	25	25	26	25
7	ISK I 2018-7	PS	299	309	249	286
		D	112	108	103	108
		S	70	73	72	72
		HKW	36	45	41	41
		SMK	80	74	96	83
		O	47	46	47	46
		P	28	26	26	27

S.N.	Entry	Trait	Bhubaneswar	Imphal	Mohanpur	Mean
8	ISK I 2018-8	PS	301	221	261	261
		D	114	107	104	108
		S	64	72	73	70
		HKW	33	54	41	43
		SMK	80	75	93	83
		O	47	45	45	46
		P	27	27	27	27
9	ISK I 2018-9	PS	297	285	273	285
		D	112	108	105	108
		S	63	74	75	71
		HKW	32	45	43	40
		SMK	83	75	95	84
		O	46	49	47	47
		P	28	25	26	26
10	ISK I 2018-10	PS	302	240	270	271
		D	110	108	105	108
		S	64	75	75	71
		HKW	28	55	42	42
		SMK	81	77	95	84
		O	47	51	48	49
		P	28	26	25	26
11	ISK I 2018-12	PS	311	251	240	267
		D	114	107	107	109
		S	68	73	70	70
		HKW	35	54	40	43
		SMK	83	75	97	85
		O	46	46	45	46
		P	28	27	27	27
12	ISK I 2018-13	PS	300	305	278	295
		D	113	107	103	108
		S	62	72	70	68
		HKW	25	43	40	36
		SMK	80	73	91	81
		O	46	47	45	46
		P	28	26	27	27
13	ISK I 2018-14	PS	306	271	261	279
		D	114	108	105	109
		S	66	74	73	71
		HKW	31	45	41	39
		SMK	81	75	92	83
		O	46	47	45	46
		P	28	27	27	27
14	ISK I 2018-15	PS	306	227	291	275
		D	110	110	113	111
		S	62	70	67	66
		HKW	25	37	42	35
		SMK	81	67	87	78
		O	46	45	45	45
		P	29	27	28	28

S.N.	Entry	Trait	Bhubaneswar	Imphal	Mohanpur	Mean
15	ISK I 2018-16	PS	295	230	194	240
		D	114	108	110	111
		S	65	74	69	69
		HKW	35	61	42	46
		SMK	80	74	89	81
		O	46	48	45	47
		P	28	26	27	27
16	ISK I 2018-18	PS	297	210	196	234
		D	112	110	111	111
		S	64	69	70	68
		HKW	30	47	41	39
		SMK	82	70	88	80
		O	46	49	46	47
		P	29	26	26	27
17	ISK I 2018-30	PS	300	278	277	285
		D	110	107	102	106
		S	63	72	71	69
		HKW	25	45	40	37
		SMK	80	70	90	80
		O	46	46	45	46
		P	29	27	27	28
18	ISK I 2018-31	PS	295	237	280	270
		D	112	107	105	108
		S	65	70	70	68
		HKW	26	48	42	39
		SMK	80	72	93	82
		O	47	49	46	47
		P	28	25	27	27
19	ISK I 2018-32	PS	299	246	289	278
		D	114	108	105	109
		S	70	70	70	70
		HKW	30	44	41	38
		SMK	82	70	90	80
		O	46	46	46	46
		P	29	26	27	27
Final plant stand (000/ha)						
	G.M		300	260	260	273
	S.E. Diff. Mean		5.5	9.4	8.8	8.1
	CD at 5%		NS	18.9	17.8	15.9
	CV %		2.6	5.1	4.8	4.2

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Table 5a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2018

Pod yield (kg/ha)

S.N.	Entry	Dharwad	Raichur	Hiriyur	Tirupati	Kadiri	Palem	Vriddhac halem	Tindivan am	Mean	R
1	ISK I 2018-1	3283	2147	2002	1780	2581	1979	1957	2487	2277	8
2	ISK I 2018-2	2517	1505	1666	1622	1783	1644	1739	1172	1706	20
3	ISK I 2018-3	3088	1273	1700	1561	1701	1577	1971	2460	1916	16
4	ISK I 2018-4	3057	2535	1957	1969	1808	2696	2537	2750	2414	6
5	ISK I 2018-5	1429	1980	1740	2105	1765	1471	1971	2281	1843	17
6	ISK I 2018-6	3698	1927	2185	1958	3250	2169	3550	2386	2640	2
7	ISK I 2018-7	2764	1406	1958	1593	1719	1501	1449	1782	1772	18
8	ISK I 2018-8	2815	1858	1695	2032	2026	1932	2598	2748	2213	10
9	ISK I 2018-9	3323	1956	1738	1610	1811	2097	1603	1862	2000	14
10	ISK I 2018-10	3729	2373	2157	2457	2821	2394	2527	2097	2569	5
11	ISK I 2018-12	3554	1435	1740	2089	2419	1834	2473	2154	2212	11
12	ISK I 2018-13	2588	1690	1752	1154	1569	1964	1306	1664	1711	19
13	ISK I 2018-14	3079	1135	1656	2041	2173	2392	1765	2102	2043	13
14	ISK I 2018-15	2582	1962	1728	2334	2234	2077	2191	2698	2226	9
15	ISK I 2018-16	2897	2442	1292	2001	1800	2737	1610	2645	2178	12
16	ISK I 2018-18	2910	2425	1845	2469	2630	3070	2468	3271	2636	3
17	ISK I 2018-32	3595	1964	2545	2157	3009	2035	2378	3012	2587	4
18	ISK I 2018-33	3667	1783	1959	1641	1722	1889	1211	1563	1929	15
19	ISK I 2018-34	3297	833	2315	2490	2706	2076	2092	2461	2284	7
20	ISK I 2018-35	3773	1702	2517	2583	2581	2554	3123	3074	2738	1
	GM	3082	1817	1907	1982	2205	2104	2126	2333	2195	
	S.E. Diff. Mean	325.5	156.6	209.2	217.6	128.9	177.6	166.4	119.2	221.7	
	CD at 5%	655.8	315.5	421.5	438.6	259.6	357.9	335.2	240.1	434.5	
	CV%	14.9	12.2	15.5	25.6	8.3	11.9	11.1	7.2	14.8	

Table 5b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2018

Kernel yield (kg/ha)

S.N.	Entry	Dharwad	Raichur	Hiriyur	Tirupati	Kadiri	Palem	Vriddhac halem	Tindivan am	Mean	R
1	ISK I 2018-1	2278	1510	1054	1107	1649	1363	1328	1678	1496	8
2	ISK I 2018-2	1772	918	885	823	1097	1201	1071	714	1060	20
3	ISK I 2018-3	2318	854	1063	917	1132	1088	1396	1652	1303	15
4	ISK I 2018-4	2243	1748	1193	1189	1216	1780	1745	1822	1617	6
5	ISK I 2018-5	1049	1333	1102	1294	1249	854	1412	1672	1246	16
6	ISK I 2018-6	2613	1237	1415	1220	2288	1475	2367	1753	1796	2
7	ISK I 2018-7	1989	868	1038	948	1151	1035	965	1176	1146	18
8	ISK I 2018-8	2121	1433	1128	1374	1448	1464	1836	1917	1590	7
9	ISK I 2018-9	2404	1311	1038	910	1188	1571	1028	1182	1329	14
10	ISK I 2018-10	2769	1648	1489	1589	2028	1672	1787	1459	1805	1
11	ISK I 2018-12	2580	962	1080	1304	1681	1124	1654	1454	1480	10
12	ISK I 2018-13	1877	1067	1025	579	1044	1447	899	1094	1129	19
13	ISK I 2018-14	2269	771	981	1061	1501	1664	1243	1410	1363	13
14	ISK I 2018-15	1827	1265	907	1324	1480	1225	1470	1728	1403	12
15	ISK I 2018-16	2039	1685	783	1213	1246	1781	1029	1759	1442	11
16	ISK I 2018-18	1969	1571	1219	1531	1767	1969	1706	2311	1755	4
17	ISK I 2018-32	2560	1257	1469	1183	1979	1261	1636	1963	1664	5
18	ISK I 2018-33	2781	1115	1197	877	1094	1190	732	969	1244	17
19	ISK I 2018-34	2359	523	1370	1374	1810	1434	1442	1605	1490	9
20	ISK I 2018-35	2548	1137	1477	1501	1675	1532	2127	2094	1761	3
	GM	2218	1211	1146	1166	1486	1407	1444	1571	1456	
	S.E. Diff. Mean	234.7	109.4	149.6	241.5	96.4	116.3	117.8	84.0	154.7	
	CD at 5%	472.8	220.5	301.4	486.6	194.3	234.4	237.3	169.3	303.2	
	CV%	15.0	12.8	18.5	29.3	9.2	11.7	11.5	7.6	15.0	

Table 5c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I KHARIF 2018

Ancillary traits

S.N.	Entry	Trait	Dharwad	Raichur	Hiriyur	Tirupati	Kadiri	Palem	Vridhdachala	Tindivanam	Mean
1	ISK I 2018-1	PS	169	314	229	311	286	304	271	297	273
		D	112	113	123	114	120	119	100	119	115
		S	69	71	52	62	64	68	68	68	68
		HKW	35	30	35	27	24	46	40	33	34
		SMK	89	90	70	85	85	85	87	96	86
		O	48	51	54	48	-	52	53	49	51
		P	28	26	26	26	-	26	24	25	26
2	ISK I 2018-2	PS	126	306	240	255	298	305	278	260	259
		D	109	111	120	114	110	111	100	119	112
		S	70	61	53	50	62	73	62	61	62
		HKW	40	41	40	33	30	48	47	41	40
		SMK	93	73	76	84	90	70	76	88	81
		O	47	48	50	48	-	49	48	48	48
		P	29	27	26	26	-	28	27	26	27
3	ISK I 2018-3	PS	139	314	259	260	303	317	286	279	270
		D	108	111	121	114	115	119	105	119	114
		S	75	67	62	58	66	69	71	67	67
		HKW	37	28	41	25	25	70	47	45	40
		SMK	94	81	80	86	84	90	82	93	86
		O	48	48	51	47	-	48	50	49	49
		P	28	27	25	26	-	28	26	25	27
4	ISK I 2018-4	PS	159	314	214	268	318	324	274	256	266
		D	109	112	121	114	117	112	102	118	113
		S	73	69	62	60	67	66	69	66	67
		HKW	37	37	44	34	35	73	44	48	44
		SMK	95	92	81	85	92	85	95	93	90
		O	48	48	50	47	-	48	49	48	48
		P	28	27	25	26	-	27	25	25	26
5	ISK I 2018-5	PS	109	319	213	273	324	306	269	299	264
		D	105	106	117	114	110	118	109	118	112
		S	73	67	63	62	70	58	72	73	67
		HKW	42	38	53	33	33	57	54	56	46
		SMK	94	80	83	89	90	90	91	95	89
		O	47	51	53	47	-	50	51	48	50
		P	28	25	23	26	-	26	25	26	26
6	ISK I 2018-6	PS	160	310	245	299	325	314	268	262	273
		D	111	108	118	114	119	119	106	117	114
		S	71	64	65	63	70	68	67	73	68
		HKW	40	32	47	27	29	32	38	39	35
		SMK	94	87	80	82	88	75	81	97	85
		O	49	51	53	49	-	49	53	50	51
		P	28	25	24	25	-	27	25	24	25
7	ISK I 2018-7	PS	164	314	253	265	325	315	268	266	271
		D	100	360	123	114	115	112	100	117	143
		S	72	62	54	58	67	69	67	66	64
		HKW	43	27	40	32	31	45	48	35	38
		SMK	97	76	78	93	90	80	79	80	84
		O	46	47	50	47	-	47	48	48	47
		P	29	28	26	27	-	28	26	25	27

S.N.	Entry	Trait	Dharwad	Raichur	Hiriyur	Tirupati	Kadiri	Palem	Vridhdachala	Tindivanam	Mean
8	ISK I 2018-8	PS	147	319	266	295	317	308	271	273	275
		D	109	112	127	114	117	119	103	119	115
		S	75	77	66	68	71	76	71	70	72
		HKW	45	35	44	34	33	50	46	45	42
		SMK	97	86	80	90	92	85	90	89	89
		O	47	49	49	45	-	46	49	49	48
		P	28	26	26	27	-	29	27	25	27
9	ISK I 2018-9	PS	157	320	231	250	321	312	310	301	275
		D	109	110	122	114	110	118	105	119	113
		S	72	67	60	55	65	75	64	64	65
		HKW	35	27	36	27	26	36	42	36	33
		SMK	94	84	72	83	85	80	64	94	82
		O	46	47	50	45	-	47	50	46	47
		P	29	27	25	27	-	28	26	26	27
10	ISK I 2018-10	PS	133	314	248	244	319	312	244	247	258
		D	111	109	118	114	115	118	110	119	114
		S	74	70	69	65	72	70	71	70	70
		HKW	47	36	46	36	31	45	41	49	41
		SMK	97	88	80	93	90	90	93	98	91
		O	49	52	53	49	-	50	53	52	51
		P	27	25	24	26	-	27	25	25	26
11	ISK I 2018-12	PS	136	317	266	238	306	314	245	248	259
		D	109	110	123	114	117	113	106	119	114
		S	73	67	62	61	69	61	67	68	66
		HKW	46	34	50	36	31	53	45	42	42
		SMK	96	89	85	75	90	90	91	92	88
		O	46	48	50	46	-	47	48	51	48
		P	28	26	26	26	-	28	26	26	27
12	ISK I 2018-13	PS	146	315	217	215	313	311	236	304	257
		D	102	110	121	114	110	118	105	118	112
		S	73	63	58	46	66	74	69	66	64
		HKW	36	27	36	25	24	49	36	33	33
		SMK	91	87	79	83	84	90	81	89	85
		O	46	48	50	44	-	47	49	48	47
		P	28	27	26	27	-	28	26	26	27
13	ISK I 2018-14	PS	137	315	238	225	311	324	259	293	263
		D	111	105	121	114	115	113	110	119	113
		S	74	68	59	52	69	70	70	67	66
		HKW	45	27	40	29	28	49	43	40	37
		SMK	97	89	80	87	88	85	89	97	89
		O	47	48	54	46	-	48	49	50	49
		P	29	27	24	27	-	28	26	25	26
14	ISK I 2018-15	PS	129	317	251	260	323	317	303	285	273
		D	108	112	118	114	116	112	102	119	113
		S	71	65	52	57	66	59	67	64	63
		HKW	32	28	35	31	27	41	40	39	34
		SMK	90	90	76	90	85	80	85	95	86
		O	46	49	49	48	-	48	49	48	48
		P	29	27	26	26	-	29	26	26	27

S.N.	Entry	Trait	Dharwad	Raichur	Hiriyur	Tirupati	Kadiri	Palem	Vriddhachala	Tindivanam	Mean	
15	ISK I 2018-16	PS	168	316	186	214	219	307	138	245	224	
		D	110	110	123	114	117	119	103	118	114	
		S	70	69	60	60	69	65	64	64	67	65
		HKW	46	33	46	34	36	54	44	44	45	42
		SMK	95	88	81	94	91	85	85	85	93	89
		O	47	49	52	50	-	48	51	47	47	49
		P	28	26	24	25	-	28	25	25	27	26
16	ISK I 2018-18	PS	149	319	212	211	212	315	190	242	231	
		D	111	111	119	114	117	119	105	118	114	
		S	68	65	66	62	67	64	69	69	71	66
		HKW	36	34	38	27	25	40	39	39	39	35
		SMK	92	89	76	86	86	75	86	86	91	85
		O	49	51	51	49	-	49	51	50	50	50
		P	27	26	25	26	-	27	25	25	26	26
17	ISK I 2018-32	PS	151	315	270	293	319	308	292	308	282	
		D	109	110	123	114	115	112	105	118	113	
		S	71	64	58	56	66	62	69	69	65	64
		HKW	34	28	33	26	22	33	33	33	30	30
		SMK	94	82	77	79	84	65	91	86	86	82
		O	48	48	50	48	-	48	47	46	46	48
		P	28	28	26	26	-	28	26	26	27	27
18	ISK I 2018-33	PS	160	312	263	270	305	297	321	323	281	
		D	107	110	127	114	115	111	103	117	113	
		S	76	63	61	55	64	63	60	62	62	63
		HKW	31	32	34	24	20	36	37	28	28	30
		SMK	93	87	70	88	81	80	71	88	88	82
		O	50	47	51	51	-	50	52	48	48	50
		P	27	28	26	26	-	27	25	25	25	26
19	ISK I 2018-34	PS	146	317	280	268	300	302	294	311	277	
		D	109	112	121	114	118	118	102	117	114	
		S	72	63	59	56	67	69	69	69	65	65
		HKW	33	27	31	25	24	40	35	31	31	31
		SMK	91	80	71	88	84	70	85	85	85	82
		O	48	48	49	48	-	47	50	47	47	48
		P	27	28	26	26	-	28	26	26	26	27
20	ISK I 2018-35	PS	155	317	245	269	295	319	299	303	275	
		D	111	111	127	114	120	119	103	117	115	
		S	68	67	59	58	65	60	68	68	68	64
		HKW	33	28	38	26	22	37	39	40	40	33
		SMK	90	83	82	80	82	90	87	89	89	85
		O	50	51	54	49	-	49	51	50	50	50
		P	27	25	24	26	-	27	25	25	25	26
Final plant stand (000/ha)												
	G.M		147	315	241	259	302	312	266	280	265	
	S.E. Diff. Mean		14.7	3.9	15.5	20.8	5.2	12.7	22.1	9.5	14.5	
	CD at 5%		29.6	NS	31.2	42.0	10.5	NS	44.6	19.1	28.3	
	CV %		14.2	1.8	9.1	11.4	2.5	5.8	11.8	4.8	7.72	

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Table 6a: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2018

Pod yield (kg/ha)

S.N.	Entry	Mainpuri	Durgapura	Bikaner	Ludhiana	Mean	R
1	IVK I 2018-1	2719	2998	4565	3025	3327	5
2	IVK I 2018-2	1773	4429	3371	2495	3017	10
3	IVK I 2018-3	2876	3263	4733	1879	3188	8
4	IVK I 2018-4	2522	2661	3562	2065	2703	11
5	IVK I 2018-5	2246	3889	4193	3971	3575	2
6	IVK I 2018-6	3507	2877	5438	1974	3449	3
7	IVK I 2018-7	2246	2920	3720	1637	2631	12
8	IVK I 2018-8	2364	3751	5271	1375	3190	7
9	IVK I 2018-9	2285	2173	1634	1247	1835	14
10	IVK I 2018-10	2404	2760	3691	1527	2596	13
11	IVK I 2018-11	2758	3704	5160	2730	3588	1
12	IVK I 2018-12	2427	3046	4736	1967	3044	9
13	IVK I 2018-13	2049	3956	5867	1540	3353	4
14	IVK I 2018-14	1970	3326	5698	2106	3275	6
	G.M	2439	3268	4403	2110	3055	
	S.E. Diff. Mean	92.3	200.8	686.1	153.3	368.5	
	CD at 5%	186.6	405.7	1386.7	309.8	722.2	
	CV %	5.4	8.9	22.0	10.3	17.1	

Table 6b: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2018

Kernel yield (kg/ha)

S.N.	Entry	Mainpuri	Durgapura	Bikaner	Ludhiana	Mean	R
1	IVK I 2018-1	1848	2187	3349	2112	2374	5
2	IVK I 2018-2	1242	3223	2255	1645	2091	10
3	IVK I 2018-3	1983	2305	3099	1402	2197	8
4	IVK I 2018-4	1765	1955	2568	1590	1970	11
5	IVK I 2018-5	1550	2950	2667	2819	2497	2
6	IVK I 2018-6	2526	2070	3715	1265	2394	4
7	IVK I 2018-7	1571	2155	2564	1191	1870	12
8	IVK I 2018-8	1607	2735	3707	857	2227	7
9	IVK I 2018-9	1577	1559	1149	845	1283	14
10	IVK I 2018-10	1635	1874	2652	1038	1800	13
11	IVK I 2018-11	1931	2732	3657	1937	2564	1
12	IVK I 2018-12	1674	2151	3153	1434	2103	9
13	IVK I 2018-13	1455	3012	4024	1094	2396	3
14	IVK I 2018-14	1378	2445	3866	1480	2292	6
	G.M	1696	2382	3030	1479	2147	
	S.E. Diff. Mean	67.8	147.8	540.5	111.5	287.7	
	CD at 5%	137.1	298.7	1092.4	225.4	563.9	
	CV %	5.7	8.8	25.2	10.7	19.0	

Table 6c: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2018
Ancillary traits

S.N.	Entry	Trait	Mainpuri	Durgapur	Bikaner	Ludhiana	Mean
1	IVK I 2018-1	PS	126	136	104	140	126
		D	124	129	-	115	123
		S	68	73	73	70	71
		HKW	47	55	-	37	47
		SMK	90	88	-	83	87
		O	48	48	-	48	48
		P	26	27	-	-	27
2	IVK I 2018-2	PS	136	125	106	139	126
		D	121	130	-	117	122
		S	70	73	67	66	69
		HKW	52	76	-	42	57
		SMK	89	90	-	82	87
		O	47	49	-	48	48
		P	26	27	-	-	27
3	IVK I 2018-3	PS	140	134	105	139	129
		D	120	130	-	118	123
		S	69	71	65	75	70
		HKW	54	58	-	43	52
		SMK	92	91	-	88	90
		O	49	48	-	49	49
		P	26	27	-	-	27
4	IVK I 2018-4	PS	129	129	96	139	123
		D	121	127	-	120	123
		S	70	74	72	77	73
		HKW	57	61	-	40	53
		SMK	93	93	-	82	89
		O	48	49	-	47	48
		P	26	27	-	-	27
5	IVK I 2018-5	PS	125	136	79	138	119
		D	119	126	-	117	121
		S	69	76	64	71	70
		HKW	62	68	-	47	59
		SMK	90	97	-	82	90
		O	50	48	-	48	49
		P	24	27	-	-	25
6	IVK I 2018-6	PS	142	142	100	141	131
		D	118	130	-	119	122
		S	72	72	69	64	69
		HKW	55	54	-	35	48
		SMK	94	88	-	85	89
		O	47	48	-	48	48
		P	26	27	-	-	27
7	IVK I 2018-7	PS	139	126	100	139	126
		D	122	129	-	122	124
		S	70	74	68	73	71
		HKW	55	63	-	37	52
		SMK	89	90	-	77	85
		O	52	50	-	47	50
		P	24	27	-	-	25

S.N.	Entry	Trait	Mainpuri	Durgapur	Bikaner	Ludhiana	Mean
8	IVK I 2018-8	PS	131	125	82	140	119
		D	120	130	-	116	122
		S	68	73	70	63	68
		HKW	42	52	-	29	41
		SMK	90	87	-	64	80
		O	52	49	-	50	50
		P	25	27	-	-	26
9	IVK I 2018-9	PS	123	139	68	140	117
		D	118	128	-	115	120
		S	69	72	71	68	70
		HKW	45	39	-	48	44
		SMK	92	91	-	89	91
		O	50	51	-	48	50
		P	25	26	-	-	26
10	IVK I 2018-10	PS	140	142	85	137	126
		D	120	126	-	122	123
		S	68	68	71	68	69
		HKW	47	42	-	31	40
		SMK	90	91	-	87	89
		O	50	51	-	48	50
		P	25	26	-	-	26
11	IVK I 2018-11	PS	139	136	91	138	126
		D	121	128	-	118	122
		S	70	74	71	71	71
		HKW	55	59	-	42	52
		SMK	89	95	-	82	89
		O	47	49	-	49	48
		P	26	27	-	-	27
12	IVK I 2018-12	PS	129	136	94	137	124
		D	124	129	-	121	125
		S	69	71	67	73	70
		HKW	47	61	-	41	50
		SMK	92	94	-	71	86
		O	45	48	-	49	47
		P	27	27	-	-	27
13	IVK I 2018-13	PS	136	136	92	141	126
		D	120	130	-	119	123
		S	71	76	69	71	72
		HKW	53	55	-	41	49
		SMK	87	96	-	59	81
		O	51	49	-	48	49
		P	24	27	-	-	25
14	IVK I 2018-14	PS	132	142	91	140	126
		D	122	129	-	121	124
		S	70	74	67	70	70
		HKW	56	75	-	55	62
		SMK	88	94	-	75	86
		O	49	49	-	48	49
		P	26	26	-	-	26
Final plant stand (000/ha)							
	GM		133	135	92	139	125
	S.E. Diff. Mean		3.3	4.5	8.5	4.8	5.6
	CD at 5%		6.6	9.1	17.2	NS	11.0
	CV %		3.5	4.7	13.0	4.9	6.4

ZONE II**Table 7a: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2018**

S.N.	Entry	Pod yield (kg/ha)				Mean	R
		Junagadh	Amreli	Talod	Pratapgarh		
1	IVK I 2018-1	2246	1551	3491	2199	2372	6
2	IVK I 2018-2	1882	1074	3199	1428	1896	13
3	IVK I 2018-3	2275	1554	4504	2122	2614	2
4	IVK I 2018-4	1890	1502	2790	1814	1999	11
5	IVK I 2018-5	2342	1467	4287	1474	2393	5
6	IVK I 2018-6	1828	1438	3924	2045	2309	7
7	IVK I 2018-7	2142	1548	3649	1775	2279	9
8	IVK I 2018-8	2561	1004	4090	2045	2425	4
9	IVK I 2018-9	2407	1037	2309	1042	1699	14
10	IVK I 2018-10	2616	1612	2427	1428	2021	10
11	IVK I 2018-15	1837	1430	2782	1929	1995	12
12	IVK I 2018-16	1979	1279	3830	2083	2293	8
13	IVK I 2018-17	2628	2104	3042	2334	2527	3
14	IVK I 2018-18	2860	2040	3633	2431	2741	1
	G.M	2250	1474	3426	1868	2254	
	S.E. Diff. Mean	184.9	116.8	332.1	175.0	217.2	
	CD at 5%	373.7	236.0	671.1	353.6	425.7	
	CV %	11.6	11.2	13.7	13.3	13.6	

Table 7b: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2018

S.N	Entry	Kernel yield (kg/ha)				Mean	R
		Junagadh	Amreli	Talod	Pratapgarh		
1	IVK I 2018-1	1634	1019	2200	1562	1604	5
2	IVK I 2018-2	1322	635	2001	935	1223	13
3	IVK I 2018-3	1572	941	2811	1469	1698	3
4	IVK I 2018-4	1412	1039	2055	1234	1435	10
5	IVK I 2018-5	1717	881	2788	1032	1605	4
6	IVK I 2018-6	1239	864	2618	1299	1505	9
7	IVK I 2018-7	1604	1041	2461	1265	1593	6
8	IVK I 2018-8	1800	597	2549	1400	1587	7
9	IVK I 2018-9	1696	693	1474	667	1133	14
10	IVK I 2018-10	1905	1079	1645	934	1391	12
11	IVK I 2018-15	1382	983	1912	1363	1410	11
12	IVK I 2018-16	1494	843	2465	1454	1564	8
13	IVK I 2018-17	1878	1423	2070	1569	1735	2
14	IVK I 2018-18	2139	1368	2414	1605	1882	1
	G.M	1628	958	2247	1271	1526	
	S.E. Diff. Mean	134.1	84.2	243.0	119.8	156.9	
	CD at 5%	271.0	170.1	491.0	242.2	307.5	
	CV %	11.7	12.4	15.3	13.3	14.5	

Table 7c: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2018

Ancillary traits

S.N.	Entry	Trait	Junagadh	Amreli	Talod	Pratapgarh	Mean
1	IVK I 2018-1	PS	143	105	139	138	131
		D	108	121	116	114	115
		S	73	65	63	71	68
		HKW	65	47	43	55	52
		SMK	94	99	73	-	88
		O	51	50	50	50	50
		P	26	27	26	26	27
2	IVK I 2018-2	PS	143	105	143	130	130
		D	111	124	115	112	116
		S	70	59	63	65	64
		HKW	59	44	81	53	59
		SMK	93	94	68	-	85
		O	48	49	53	49	50
		P	27	28	25	26	27
3	IVK I 2018-3	PS	146	106	146	136	134
		D	112	126	116	115	117
		S	69	60	63	69	65
		HKW	47	37	35	54	43
		SMK	71	95	43	-	70
		O	48	49	51	48	49
		P	27	28	26	27	27
4	IVK I 2018-4	PS	141	107	141	137	132
		D	109	120	117	110	114
		S	75	69	73	68	71
		HKW	64	42	61	57	56
		SMK	91	96	83	-	90
		O	52	53	55	51	53
		P	26	26	25	26	26
5	IVK I 2018-5	PS	147	104	141	140	133
		D	111	126	115	111	116
		S	73	60	65	70	67
		HKW	58	36	48	55	49
		SMK	94	99	67	-	86
		O	49	48	51	51	50
		P	26	28	26	25	26
6	IVK I 2018-6	PS	141	104	144	145	133
		D	111	125	116	117	117
		S	68	60	67	63	64
		HKW	46	35	48	44	43
		SMK	78	94	73	-	82
		O	48	51	49	48	49
		P	27	27	27	27	27
7	IVK I 2018-7	PS	144	102	147	142	134
		D	111	122	115	112	115
		S	75	67	67	71	70
		HKW	70	45	59	58	58
		SMK	93	98	89	-	93
		O	52	52	54	50	52
		P	26	27	25	26	26

S.N.	Entry	Trait	Junagadh	Amreli	Talod	Pratapgarh	Mean
8	IVK I 2018-8	PS	132	100	119	144	124
		D	112	126	115	110	116
		S	70	59	62	68	65
		HKW	57	38	50	54	50
		SMK	90	93	84	-	89
		O	47	47	49	46	47
		P	27	28	26	27	27
9	IVK I 2018-9	PS	128	97	68	139	108
		D	109	124	116	118	117
		S	70	67	64	64	66
		HKW	40	33	34	48	39
		SMK	83	96	89	-	90
		O	52	52	53	48	51
		P	26	26	25	27	26
10	IVK I 2018-10	PS	132	97	102	137	117
		D	112	120	116	118	117
		S	73	67	68	65	68
		HKW	43	32	40	42	39
		SMK	88	98	86	-	91
		O	51	52	51	51	51
		P	26	26	26	26	26
11	IVK I 2018-15	PS	143	106	141	127	129
		D	111	119	115	112	114
		S	75	69	69	71	71
		HKW	58	43	60	56	54
		SMK	96	97	88	-	93
		O	50	52	52	50	51
		P	26	26	26	26	26
12	IVK I 2018-16	PS	140	103	141	138	130
		D	110	121	116	110	114
		S	75	66	64	70	69
		HKW	63	41	55	55	53
		SMK	98	99	92	-	96
		O	49	52	52	49	51
		P	27	26	25	26	26
13	IVK I 2018-17	PS	146	104	143	132	131
		D	111	122	117	115	116
		S	71	68	68	67	69
		HKW	46	32	34	41	38
		SMK	84	97	87	-	90
		O	50	51	51	49	50
		P	27	26	26	26	26
14	IVK I 2018-18	PS	141	98	144	135	130
		D	112	125	117	114	117
		S	75	67	66	66	68
		HKW	44	33	49	41	42
		SMK	96	92	77	-	88
		O	51	51	52	49	51
		P	26	26	26	26	26
Final plant stand (000/ha)							
	GM		141	103	133	137	128
	S.E. Diff. Mean		3.7	3.5	3.6	6.1	4.3
	CD at 5%		7.4	7.0	7.4	NS	8.5
	CV %		3.7	4.8	3.9	6.3	4.8

ZONE IV

Table 8a: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2018

Pod yield (kg/ha)

S.N.	Entry	Bhubaneswar	Imphal	Mohanpur	Mean	R
1	IVK I 2018-1	1616	2041	1420	1692	12
2	IVK I 2018-2	1182	3076	-	2129	4
3	IVK I 2018-3	1419	2773	1439	1877	9
4	IVK I 2018-4	1576	2343	1496	1805	11
5	IVK I 2018-5	1714	3065	-	2390	1
6	IVK I 2018-6	1300	3339	1591	2077	5
7	IVK I 2018-7	1379	3020	1528	1976	7
8	IVK I 2018-8	1222	3123	1556	1967	8
9	IVK I 2018-9	1064	1960	1514	1513	14
10	IVK I 2018-10	1143	2060	-	1602	13
11	IVK I 2018-18	1458	3278	2355	2364	2
12	IVK I 2018-19	1537	2991	2520	2349	3
13	IVK I 2018-20	1084	2649	1893	1875	10
14	IVK I 2018-21	1123	2929	1922	1991	6
	G.M	1344	2761	1749	1972	
	S.E. Diff. Mean	46.2	152.8	-	-	
	CD at 5%	93.3	308.9	-	-	
	CV %	4.9	7.8	-	-	

Table 8b: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2018

Kernel yield (kg/ha)

S.N.	Entry	Bhubaneswar	Imphal	Mohanpur	Mean	R
1	IVK I 2018-1	994	1419	983	1132	12
2	IVK I 2018-2	731	2192	-	1462	4
3	IVK I 2018-3	873	1985	1005	1288	11
4	IVK I 2018-4	1066	1765	1060	1297	10
5	IVK I 2018-5	1045	2265	-	1655	2
6	IVK I 2018-6	797	2369	1109	1425	5
7	IVK I 2018-7	868	2218	1056	1381	8
8	IVK I 2018-8	771	2265	1112	1383	7
9	IVK I 2018-9	652	1392	1038	1027	14
10	IVK I 2018-10	768	1476	-	1122	13
11	IVK I 2018-18	929	2442	1662	1678	1
12	IVK I 2018-19	939	2133	1786	1619	3
13	IVK I 2018-20	711	1972	1322	1335	9
14	IVK I 2018-21	703	2089	1386	1393	6
	G.M	846	1999	1229	1371	
	S.E. Diff. Mean	45.5	108.2	-	-	
	CD at 5%	91.9	218.7	-	-	
	CV %	7.6	7.7	-	-	

Table 8c: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2018

Ancillary traits

S.No	Entry	Trait	Bhubaneswar	Imphal	Mohanpur	Mean
1	IVK I 2018-1	PS	105	125	132	121
		D	112	110	114	112
		S	62	70	69	67
		HKW	34	62	47	48
		SMK	79	64	91	78
		O	48	50	43	47
		P	28	25	28	27
2	IVK I 2018-2	PS	99	125	-	112
		D	113	109	-	111
		S	62	71	-	67
		HKW	31	84	-	57
		SMK	80	71	-	76
		O	47	47	-	47
		P	28	26	-	27
3	IVK I 2018-3	PS	112	122	125	120
		D	113	109	112	111
		S	61	72	70	67
		HKW	29	61	54	48
		SMK	82	70	93	82
		O	47	46	45	46
		P	28	26	26	27
4	IVK I 2018-4	PS	102	123	128	118
		D	114	109	113	112
		S	68	75	71	71
		HKW	36	69	47	51
		SMK	81	76	92	83
		O	50	52	46	49
		P	26	25	27	26
5	IVK I 2018-5	PS	104	141	-	122
		D	112	109	-	111
		S	61	74	-	67
		HKW	30	66	-	48
		SMK	79	74	-	76
		O	45	47	-	46
		P	29	26	-	27
6	IVK I 2018-6	PS	103	140	137	127
		D	112	109	114	112
		S	61	71	70	67
		HKW	31	58	48	46
		SMK	82	71	91	81
		O	47	48	47	47
		P	28	26	25	26
7	IVK I 2018-7	PS	97	139	122	119
		D	113	112	115	113
		S	63	74	69	69
		HKW	33	72	51	52
		SMK	84	74	93	83
		O	50	50	46	48
		P	27	25	26	26

S.No	Entry	Trait	Bhubaneswar	Imphal	Mohanpur	Mean
8	IVK I 2018-8	PS	97	111	121	110
		D	112	110	115	112
		S	63	73	71	69
		HKW	31	71	56	53
		SMK	82	74	92	83
		O	47	44	42	44
		P	28	27	28	28
9	IVK I 2018-9	PS	99	57	133	96
		D	113	110	116	113
		S	61	71	69	67
		HKW	29	47	56	44
		SMK	81	69	92	81
		O	48	49	46	48
		P	26	26	26	26
10	IVK I 2018-10	PS	99	84	-	91
		D	112	109	-	111
		S	67	72	-	69
		HKW	33	49	-	41
		SMK	82	70	-	76
		O	48	49	-	48
		P	27	25		26
11	IVK I 2018-18	PS	104	146	126	125
		D	112	110	107	110
		S	64	75	71	70
		HKW	29	45	53	42
		SMK	80	73	91	81
		O	48	49	46	48
		P	27	26	27	27
12	IVK I 2018-19	PS	101	131	136	123
		D	113	109	116	113
		S	61	71	71	68
		HKW	29	54	56	46
		SMK	84	70	92	82
		O	48	48	46	47
		P	28	26	26	27
13	IVK I 2018-20	PS	106	130	118	118
		D	115	110	113	113
		S	66	75	70	70
		HKW	30	65	59	51
		SMK	81	77	94	84
		O	48	48	45	47
		P	28	25	27	27
14	IVK I 2018-21	PS	106	132	126	121
		D	114	109	117	113
		S	63	71	72	69
		HKW	31	55	49	45
		SMK	81	70	92	81
		O	48	46	45	46
		P	27	27	27	27
Final plant stand (000/ha)						
	GM		102	122	128	116
	S.E. Diff. Mean		20.5	4.3	-	-
	CD at 5%		41.5	8.8	-	-
	CV %		28.4	5.0	-	-

ZONE V

Table 9a: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2018

Pod yield (kg/ha)

S.N.	Entry	Dharwad	Raichur	Hiriyur	Vriddha chalam	Tindiva nam	Palem	Kadiri	Tirupati	Digraj	Mean	R
1	IVK I 2018-1	3303	2419	2432	1702	3115	1799	1044	1642	2483	2215	4
2	IVK I 2018-2	3193	1537	1913	646	1142	1253	1403	1292	2129	1612	13
3	IVK I 2018-3	3104	2750	2690	1434	2092	1555	1304	1725	2483	2126	6
4	IVK I 2018-4	3221	1627	2193	997	1724	1217	1564	1631	2149	1814	9
5	IVK I 2018-5	2923	1726	1928	583	1649	1542	2045	1019	1806	1691	12
6	IVK I 2018-6	3375	2541	2635	1187	2403	1629	1418	1531	2703	2158	5
7	IVK I 2018-7	3020	1600	2197	1182	1325	1157	1190	1195	2554	1713	11
8	IVK I 2018-8	2850	1966	2959	823	2243	1787	1367	1278	2785	2006	8
9	IVK I 2018-9	2294	1978	1972	582	2589	1826	1946	1039	1924	1794	10
10	IVK I 2018-10	2336	1561	2017	1119	2757	1849	1781	1758	3272	2050	7
11	IVK I 2018-17	3659	3842	2776	1964	2157	1581	1162	2803	4949	2766	1
12	IVK I 2018-18	3901	3073	3614	1798	2361	1215	1647	2658	4284	2728	2
13	IVK I 2018-22	3424	2325	2831	1441	1728	1575	1777	2272	2778	2239	3
	G.M	3123	2227	2474	1189	2099	1537	1511	1680	2792	2070	
	S.E. Diff. Mean	216.6	275.8	392.4	63.9	68.7	108.7	89.8	385.4	236.7	238.1	
	CD at 5%	439.7	560.0	796.6	129.7	139.5	220.6	182.3	782.3	480.4	466.7	
	CV %	9.8	17.5	22.4	7.6	4.6	10.0	8.4	32.4	12.0	16.3	

Table 9b: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2018

Kernel yield (kg/ha)

S.N.	Entry	Dharwad	Raichur	Hiriyur	Vriddha chalam	Tindiva nam	Palem	Kadiri	Tirupati	Digraj	Mean	R
1	IVK I 2018-1	2275	1581	1523	1071	2144	1060	702	1013	1699	1452	3
2	IVK I 2018-2	2145	1002	1052	402	733	751	889	740	1439	1017	13
3	IVK I 2018-3	2145	1801	1380	913	1371	964	825	1041	1671	1346	6
4	IVK I 2018-4	2353	1114	1357	644	1254	718	1048	976	1462	1214	9
5	IVK I 2018-5	2032	1124	1039	361	1061	926	1458	535	1252	1088	12
6	IVK I 2018-6	2391	1621	1402	772	1581	962	961	888	1821	1378	5
7	IVK I 2018-7	2156	1073	1328	801	921	682	828	735	1696	1136	11
8	IVK I 2018-8	1902	1325	1800	503	1540	1019	946	752	1787	1286	8
9	IVK I 2018-9	1549	1321	1072	361	1866	1040	1403	613	1210	1159	10
10	IVK I 2018-10	1618	1017	1197	689	1973	999	1177	1053	2231	1328	7
11	IVK I 2018-17	2534	2602	1553	1260	1574	981	822	1704	3520	1839	1
12	IVK I 2018-18	2610	2035	2084	1165	1732	741	1132	1571	2884	1773	2
13	IVK I 2018-22	2452	1535	1613	900	1130	910	1270	1327	1925	1451	4
	G.M	2166	1473	1415	757	1452	904	1035	996	1892	1344	
	S.E. Diff. Mean	168.7	182.9	227.7	44.7	47.6	60.2	64.2	232.6	180.3	153.6	
	CD at 5%	342.5	371.2	462.3	90.7	96.5	122.2	130.3	472.2	365.9	301.1	
	CV %	11.0	17.6	22.8	8.4	4.6	9.4	8.8	33.0	13.5	16.2	

Table 9c: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I KHARIF 2018

S.N	Entry	Trait	Ancillary traits									Mean	
			Dharwad	Raichur	Hiriyur	Vridhdachala	Tindivanam	Palem	Kadiri	Tirupati	Digraj		
1	IVK I 2018-1	PS	115	146	107	214	130	181	140	80	139	139	
		D	118	116	122	125	133	112	120	122	124	121	
		S	69	65	62	63	69	59	67	62	62	68	65
		HKW	53	41	54	55	56	48	41	33	33	36	46
		SMK	92	94	86	85	97	70	93	85	85	90	88
		O	49	49	46	48	47	49	-	48	48	50	48
		P	28	27	28	26	26	28	-	26	26	27	27
2	IVK I 2018-2	PS	91	148	110	133	113	178	135	81	131	124	
		D	120	115	120	128	133	118	120	122	122	125	122
		S	67	65	55	62	64	60	64	64	57	68	62
		HKW	62	37	45	51	53	53	38	35	35	40	46
		SMK	93	88	79	82	95	70	92	87	87	92	86
		O	47	47	50	46	49	49	-	47	47	48	48
		P	28	28	26	26	25	28	-	26	26	28	27
3	IVK I 2018-3	PS	101	154	121	148	132	162	134	113	140	134	
		D	120	111	119	130	135	118	120	122	120	122	
		S	69	66	51	64	66	62	64	60	60	67	63
		HKW	51	33	40	49	50	44	33	32	32	33	40
		SMK	95	94	75	87	94	60	93	89	89	92	86
		O	47	45	49	47	48	48	-	46	46	48	47
		P	28	29	27	26	26	28	-	27	27	28	27
4	IVK I 2018-4	PS	88	135	108	185	132	181	129	90	139	132	
		D	119	112	125	131	133	113	122	122	122	121	122
		S	73	69	62	65	73	59	70	60	60	68	66
		HKW	66	43	50	52	51	53	29	34	34	42	47
		SMK	96	91	82	89	99	80	91	86	86	90	89
		O	50	53	52	50	49	50	-	51	51	52	51
		P	27	25	25	25	26	27	-	25	25	26	26
5	IVK I 2018-5	PS	101	122	107	113	132	192	133	61	139	122	
		D	119	116	125	128	133	118	120	122	120	122	
		S	69	65	53	62	64	60	64	55	55	69	63
		HKW	49	37	40	47	39	52	32	33	33	38	41
		SMK	86	87	75	81	94	60	92	91	91	90	84
		O	46	48	49	47	46	47	-	45	45	47	47
		P	29	28	26	26	26	29	-	27	27	28	27
6	IVK I 2018-6	PS	104	153	105	188	142	190	127	75	139	136	
		D	118	116	128	130	133	113	118	122	122	126	123
		S	71	64	53	65	66	59	63	58	58	67	63
		HKW	45	32	40	51	46	41	33	32	32	38	40
		SMK	95	92	80	83	95	60	92	83	83	91	86
		O	47	48	51	48	47	47	-	47	47	49	48
		P	29	28	25	26	26	29	-	26	26	27	27
7	IVK I 2018-7	PS	99	141	103	198	119	180	64	65	139	123	
		D	120	114	129	132	132	112	117	122	122	124	122
		S	71	67	61	68	70	59	69	61	61	66	66
		HKW	64	42	50	51	52	49	41	34	34	50	48
		SMK	95	95	82	89	99	75	93	84	84	91	89
		O	49	52	54	48	48	48	-	50	50	51	50
		P	28	25	24	25	26	28	-	25	25	26	26

S.N	Entry	Trait	Dharwad	Raichur	Hiriyur	Vridhachala	Tindivanam	Palem	Kadiri	Tirupati	Digraj	Mean	
8	IVK I 2018-8	PS	91	147	125	88	117	188	129	61	135	120	
		D	120	112	123	128	132	119	119	122	122	122	
		S	67	67	61	61	69	57	64	64	58	64	63
		HKW	50	42	50	47	58	81	35	36	36	41	49
		SMK	93	97	82	81	99	95	90	90	90	90	91
		O	45	47	50	46	47	46	-	45	45	46	47
		P	29	27	25	25	25	29	-	27	27	27	27
9	IVK I 2018-9	PS	76	126	104	79	115	177	131	34	139	109	
		D	117	117	122	125	131	119	119	122	122	121	121
		S	68	67	55	62	72	57	68	68	59	63	63
		HKW	38	40	44	43	47	37	31	32	32	31	38
		SMK	92	90	79	75	90	70	92	92	88	89	85
		O	49	49	54	48	49	49	-	48	48	52	50
		P	28	26	24	26	25	27	-	26	26	25	26
10	IVK I 2018-10	PS	85	152	109	126	115	182	122	55	139	120	
		D	117	115	123	130	133	112	120	122	122	124	122
		S	69	65	59	62	72	54	69	69	60	68	64
		HKW	39	35	41	39	39	42	29	35	35	37	37
		SMK	94	94	76	74	97	80	91	91	79	90	86
		O	49	49	54	47	50	49	-	47	47	52	50
		P	27	26	24	26	25	27	-	26	26	25	26
11	IVK I 2018-17	PS	115	138	111	212	120	183	127	107	139	139	
		D	120	112	122	130	132	110	117	122	120	121	
		S	69	68	57	64	73	62	69	61	61	71	66
		HKW	39	34	38	41	45	36	28	31	31	40	37
		SMK	92	88	75	70	94	75	91	79	79	91	84
		O	49	49	52	50	50	46	-	47	47	52	49
		P	27	27	25	25	25	29	-	26	26	25	26
12	IVK I 2018-18	PS	114	144	106	215	124	187	129	105	135	140	
		D	119	112	127	128	133	118	119	122	122	123	122
		S	67	66	58	65	73	61	67	67	59	67	65
		HKW	38	38	37	42	37	55	41	30	30	37	39
		SMK	90	86	72	75	97	85	96	96	89	91	87
		O	49	46	50	48	49	47	-	47	47	52	48
		P	27	27	25	26	25	28	-	26	26	25	26
13	IVK I 2018-22	PS	106	145	112	193	126	185	133	100	136	137	
		D	119	114	127	125	133	118	118	122	122	123	122
		S	72	66	57	62	65	58	65	65	58	69	64
		HKW	59	42	39	53	56	43	38	35	35	35	44
		SMK	93	94	74	84	99	70	92	92	91	91	87
		O	48	46	49	47	47	47	-	46	46	50	48
		P	28	28	26	26	26	28	-	27	27	26	27
Final plant stand (000/ha)													
	GM		99	142	110	161	124	182	126	79	137	129	
	S.E. Diff. Mean		9.2	10.6	7.6	13.0	4.7	10.0	3.9	13.6	4.2	9.2	
	CD at 5%		18.7	NS	NS	26.3	9.5	NS	8.0	27.6	NS	18.0	
	CV %		13.2	10.6	9.8	11.4	5.3	7.8	4.4	24.5	4.4	10.1	

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

There were 19 test genotypes in this trial. The trial was allotted to 28 centres located across five zones. All the 23 centres have conducted the trial for over two years and reported the data except Bawal, Kanke, Jagtial, and Palem which had reported only data of either kharif 2017 or 2018. The zone and centre-wise results are presented below (**Tables 10a through 14c**). Whenever, either the coefficient of variation exceeded 25% in a particular location over two years, or the mean yield of the location fell below 1436 kg/ha (triennial national average of *kharif season*, 2016 to 2018), 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). There were two check varieties used in this zone TAG 24 (ZC), and TG 37A (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 very high (26.9%) over two years and the plant stand was very low (1,24,000 in second year per ha) at Bikaner. The Bawal centre did not report the data of second year trial. Hence, the data of Bikaner and Bawal centres could not be included in the pooled analyses. The centre-wise results are presented below (**Tables 10a through 10c**).

Mainpuri

In this location, the mean pod and kernel yield of the genotypes over two years were moderate (1712 kg/ha and 1196 kg/ha respectively). Over the two test years the zonal check, TAG 24 was the best check of this centre with a pod (1661 kg/ha) and kernel (1170 kg/ha). Six genotypes, Dh 257 (1921 kg/ha; 1365 kg/ha); K 1812 (2078 kg/ha; 1449 kg/ha); PBS 12196 (2228 kg/ha; 1605 kg/ha); K 1809 (2026 kg/ha; 1400 kg/ha); ICGV 15327 (1962 kg/ha; 1373 kg/ha); and ICGV 07220 (2379 kg/ha; 1696 kg/ha) recorded significant higher pod and kernel yields over the best check respectively.

Durgapura

The mean pod (3675 kg/ha) and kernel (2486 kg/ha) yield over two years were very high at this centre. Over two years, the zonal check variety, TG 37A (ZC) was the best for pod (4599 kg/ha) and kernel yield (3262 kg/ha). None of the test genotypes significantly surpassed the pod and kernel yield levels of the best check, TG 37A (ZC). Among the test genotypes, PBS 15044 and ICGV 07220 was found the best for pod (4300 kg/ha) whereas PBS 12196 was the best for kernel (3054 kg/ha).

Bikaner

The mean pod (2768 kg/ha) and kernel (1639 kg/ha) yield over two years were high in this centre. During both (21.4%, 35.0%, respectively) the years, the CV% was high and the plant stands were very marginal (1,24,000 in second year per ha) at this centre. Hence, the data of this centre could not be included in the pooled analysis. Among the zonal check varieties, TG 37A (ZC) was the best for pod (3221 kg/ha) and kernel (1896 kg/ha) yield. Among the test genotypes, PBS 12196 was at par with the best check significantly out yielded the best check for pod yield (4207 kg/ha) whereas for kernel yield (2676 kg/ha) it.

Ludhiana

The mean pod (2875 kg/ha) and kernel (1994 kg/ha) yield over two years were high at this centre. Over two years, TAG 24 (ZC) was the best for pod (4490 kg/ha) and kernel yield (3137 kg/ha) and out-yielded the other test genotypes and checks. None of the test genotypes significantly surpassed the pod and kernel yield levels of the best check, TAG 24 (ZC). Among the test genotypes, PBS 12196 was found the best for pod (4267 kg/ha) and kernel (3127 kg/ha).

Bawal

Bawal centre did not report the data of second year trial. The mean pod (4111 kg/ha) and kernel (1902 kg/ha) yield during *khariif* 2017 were high at this centre. During the first year of testing, TAG 24 (ZC) was the best for pod (4111 kg/ha) and kernel (2755 kg/ha) yield and out-yielded the other test genotypes and checks for kernel yield. Among the test genotypes, ICGV 07220 was the best for pod (4200 kg/ha) even slightly superior over TAG 24 (ZC) whereas for kernel this genotype was below par (2728 kg/ha) with those of the best check.

Zonal Mean Performances

The mean pod (2754 kg/ha) and kernel (1893 kg/ha) yield over two years were high in this zone. Across the three eligible locations for pooled analyses over two years, the zonal check, TG 37A was the best for pod (3475 kg/ha) and kernel yield (2435 kg/ha). None of the test genotypes significantly surpassed the pod and kernel yield levels of the best check, TG 37A (ZC). Among the test genotypes, PBS 12196 was found the best for pod (3590 kg/ha) and kernel (2595 kg/ha) and remained at par with the best check. This entry recorded just 115 kg per ha higher pod yield over the best check TG 37A (ZC) which is just 6% higher over the best check TG 37A (ZC).

Ancillary Observation

In all the test centres, the plant stand was very low at Bikaner in the second year, (124000/ha), sub-optimal (256000/ha) at Ludhiana, and Bawal (1,90,000/ha). The genotypes matured around 103 d (J 96) 72% (PBS 12196). The 100-seed weight was low (31/100 kernel) in Dh 232 and high (46 g/100 kernel) in VG 13159. Oil content of all the genotypes ranged from 48% to 50%. Protein content of all the genotypes was around 27-28%.

Conclusion

Across the three locations and over two years none of the test genotypes significantly surpassed the yield levels of the best check, TG 37A (ZC) hence none deserves promotion to AVT.

Zone II

The trial was conducted by four centres, Junagadh, Amreli, and Talod centre in Gujarat and Udaipur in southern Rajasthan. The check varieties used were TG 37A (ZC), GG7 (ZC), SG 99, and JL 501 (ZC). The Coefficient of variation (CV %) was about 17% both for pod and kernel yield and the CV% was well within the limits in three locations. At Amreli, the mean yield (1318 kg/ha) of the location fell below 1436 kg/ha (triennial national average of *khariif* season, 2016 to 2018) and hence the data could not be included in the pooled analyses. The centre-wise results are presented below (Tables 11a through 11c).

Junagadh

In this location, the mean pod (2275 kg/ha) and kernel yield (1604 kg/ha) of the genotypes over two years were high. Over the two test years among checks, GG 7 (ZC) was the best check of this centre with a very high pod (2421 kg/ha) and kernel (1765 kg/ha) yield respectively. Three test genotypes, Dh 257 (3284 kg/ha; 2443 kg/ha); K 1812 (3017 kg/ha; 2101 kg/ha); and ICGV 07220 (3114 kg/ha; 2193 kg/ha) recorded significant higher pod and kernel yields over the best check respectively.

Amreli

In this location, the mean pod (1318 kg/ha) yield of the genotypes over two years was below 1436 kg/ha (triennial national average of *kharif season*, 2016 to 2018) and hence the data could not be included in the pooled analysis. The zonal check variety, GG 7 was the best for pod (1481 kg/ha) and kernel (990 kg/ha) yield over two years. Although four genotypes were significantly superior for pod yield over the best check only two genotypes exhibited significant superiority over the best check for kernel yield. The yield levels of these two genotypes were: JL 997 (1928 kg/ha; 1127 kg/ha); and ICGV 07220 (1811 kg/ha; 1124 kg/ha), respectively.

Talod

In this location, the mean pod (2945 kg/ha) and kernel yield (1946 kg/ha) of the genotypes over two years were high. Over the two test years among checks, SG 99 (ZC) was the best check of this centre with a very high pod (3444 kg/ha) whereas for kernel yield, JL 501 (ZC) was the best (2329 kg/ha). None of the test genotypes significantly surpassed the pod and kernel yield levels of the best checks. Among the test genotypes, PBS 12196 was found the best for pod (3895 kg/ha) and kernel (2516 kg/ha).

Udaipur

In this location, the mean pod (3080 kg/ha) and kernel yield (2102 kg/ha) of the genotypes over two years were high. Over two years, there were no significant differences 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, GG 7 was the best for pod (3304 kg/ha) and kernel yield (2369 kg/ha). Among the test genotypes, UG 160 was the best for pod (4042 kg/ha) and kernel (2924 kg/ha) yield.

Zonal Mean Performances

The mean pod (2767 kg/ha) and kernel yields (1884 kg/ha) of the genotypes in this zone over two years were high. Across three locations and over two years, SG 99 (ZC) was the best for pod (2926 kg/ha) and kernel yield (2038 kg/ha). None of the test genotypes significantly surpassed the pod and kernel yield levels of the best check, SG 99 (ZC). Among the test genotypes, Dh 257 was found the best for pod (3161 kg/ha) and kernel (2304 kg/ha).

Ancillary Observation

The plant stand was very low (205000/ha) at Amreli. The genotypes matured around 104-108 days. The shelling out turn was low (61%) in VG 13159 and VG 13154 and high (73%) in Dh 257. The 100-seed weight was low (30 g) in Dh 232 and high (48 g) in TCGS 1622 and UG 160. Oil content was in the range of 48% to 51% (Dh 232, K 1812, ICGV 15327). Protein content was about 26% to 28%.

Conclusion

Across the three locations and over two years none of the test genotypes significantly surpassed the yield levels of the best check, SG 99 (ZC) and hence none deserves promotion to AVT.

Zone III

The trial was allotted to six locations Gwalior (MP), Akola, Jalgaon, Latur, Shirgaon (Maharashtra), and Raigarh (Chhattisgarh) all of them conducted the trial and reported the data. The mean yield of Akola over two years was below 1436 kg/ha (triennial national average of *kharif season*, 2016 to 2018), and hence the data could not be included in the pooled analyses. There were four checks, TAG 24 (ZC), AK 159 (ZC), GG 8 (ZC) and JL 776 (ZC). The Coefficient of variation (CV%) was high in this zone and was about 19% both for pod and kernel yield. The centre-wise results are presented below (**Tables 12a through 12c**).

Gwalior

In this location, over two years, the mean pod (3391 kg/ha) and kernel yield (2242 kg/ha) were high. The zonal check variety, AK 159 was the best with a high pod (3616 kg/ha) and kernel yield (2382 kg/ha). None of the test entries could significantly surpass the yield levels of this check variety. Among the test genotypes, PBS12196 was the best for pod (3931 kg/ha) and kernel (2670 kg/ha) yields.

Akola

In this location, over two years, the mean pod (1352 kg/ha) and kernel yield (863 kg/ha) were low. Over two years among the zonal check variety, TAG 24 was the best for pod (1404 kg/ha) and kernel yield (927 kg/ha). None of the test entries could significantly surpass the yield levels of this check variety. Among the test genotypes, J 977 was the best for pod (1751 kg/ha) whereas for kernel yield, J 96 was the best (1664 kg/ha).

Jalgaon

In this centre, over two years, the mean pod (1783 kg/ha) and kernel yield (1207 kg/ha) were moderate. The zonal check variety, JL 776 was the best for pod (2716 kg/ha) and kernel yield (1905 kg/ha). None of the test entries could significantly surpass the yield levels of this check variety. Among the test genotypes, ICGV 07220 was the best for pod (2952 kg/ha) and kernel yield (2057 kg/ha).

Latur

In this centre, over two years, the mean pod (2277 kg/ha) and kernel yield (1499 kg/ha) were high. The zonal check variety, JL 776 was the best for pod (3210 kg/ha) and kernel yield (2164 kg/ha). None of the test entries could significantly surpass the yield levels of this check variety. Among the entries ICGV 15327 was the best for pod (3416 kg/ha) and kernel (2200 kg/ha) yields.

Raigarh

In this centre, over two years, the mean pod (2312 kg/ha) and kernel yield (1517 kg/ha) were high. The zonal check variety, TAG 24 was the best for pod (2772 kg/ha) and kernel yield (1795 kg/ha). Among the entries, K1812 significantly surpassed the pod (3606 kg/ha) and kernel yield (2342 kg/ha) of the best check.

Shirgaon

Over two years in this centre, the mean pod (3613 kg/ha) and kernel yield (2643 kg/ha) were very high. The zonal check variety, JL 776 was the best for pod (4184 kg/ha) and kernel yield (2964 kg/ha). None of the test entries could significantly surpass the yield levels of this check variety. Among the entries Dh 257 and ICGV 15237 was the best for pod (4189 kg/ha) whereas for kernel yield ICGV 15237 was the best (3238 kg/ha).

Zonal Mean Performances

The mean pod (2675 kg/ha) and kernel (1821 kg/ha) yield levels over the two test years in this zone were high. Across the five locations, and over two years, JL 776 (ZC) was the best check for pod (3168 kg/ha) as well as kernel yield (2158 kg/ha). None of the test entries could significantly surpass the yield levels of this check variety. Among the test genotypes, K 1812 was the best for pod (3464 kg/ha) and kernel (2326 kg/ha) yields.

Ancillary Observation

The plant population was low (2,17,000/ha) at Akola, and low (1,93,000/ha) in second year at Jalgaon. The test genotypes and check varieties matured around 111 to 116 days. Shelling out-turn ranged from 64% in VG 13159, CAU GS 1, PBS15044 to 71% in GG 8 (ZC). The 100-seed weight was small (32 g) in Dh 232 and medium (41 g) in VG 13154. Oil content of the genotypes ranged from 48% to 52% (ICGV 15327). Protein content was between 25% (PBS12196) to 29% (Dh 232) 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, Bhubaneswar Mohanpur Imphal and Kanke in this zone. Kanke centre has been phased as on 1 April 2018. Hence this centre did not conduct the second year trial and accordingly the data of this centre was not used for pooled analysis over locations. 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 within limits in this zone for both for pod (11%) and kernel yield. The centre-wise results are presented below (**Tables 13a through 13c**).

Bhubaneswar

The average yields of entries and checks in this centre were 2194 kg of pod and 1401 kg of kernel per ha. Among the checks, R 2001-2 (ZC) was the best (2648 kg of pod and 1663 kg of kernel per ha). None of the test entries could significantly surpass the yield levels of this check variety. Among the test genotypes, K 1812 was the best for pod (2599 kg/ha) and kernel (1692 kg/ha) yields.

Imphal

In this location, the mean pod and kernel yields of the genotypes over two years were high (3690 kg/ha and 2638 kg/ha respectively). Over two years, there were no significant differences between the test genotypes and check varieties for pod and kernel yield. Hence, the real genetic worth of these genotypes could not be assessed. Among the check varieties, R

2001-2 was the best for pod (4352 kg/ha) and kernel (3083 kg/ha) yield. Among the test genotypes, VG 13154 was the best for pod (4778 kg/ha) and kernel yield (3420 kg/ha).

Mohanpur

In this location, the mean pod and kernel yields of the genotypes over two years were high (2998 kg/ha and 2111 kg/ha respectively). Over two years, there were no significant differences 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, GIRNAR-3 was the best for pod (3098 kg/ha) and kernel (2145 kg/ha) yield. Among the test genotypes, Dh 257 was the best for pod (3953 kg/ha) and kernel (2823 kg/ha) yield.

Kanke

This centre has been phased as on 1 April 2018. Hence it did not conduct the second year trial and accordingly the data of this centre was not used for pooled analysis over locations. In this location, the mean pod and kernel yields of the genotypes during kharif 2017 were low (1407 kg/ha and 969 kg/ha respectively). The zonal check variety, GIRNAR-3 was the best for pod (1539 kg/ha) and OG 52-1 (ZC) was the best for kernel (1039 kg/ha) yield over two years. Among the test genotypes, CAU- GS-1 significantly surpassed the pod and kernel yield levels of the best check, with a high pod (2055 kg/ha) and kernel yield (1412 kg/ha).

Zonal Mean Performances

In this zone, the mean pod and kernel yields of the genotypes over two years were high (2961 kg/ha and 2050 kg/ha respectively). Across the three locations and over two years, the zonal check variety, R 2001-2 was the best for pod (3310 kg/ha) and kernel (2270 kg/ha) yield. None of the test genotypes recorded significant higher pod and kernel yields over the best check. Among the test genotypes, VG 13149 was the best for pod (3536 kg/ha) and for kernel yield K 1812 was the best (2435 kg/ha). Both these genotypes fell short (K 1912 by 7%; VG 13149 by 6%) of 10% higher kernel yields over the best check.

Ancillary Observation

The plant stand was very low (190000/ha) at Kanke and sub optimal at Mohanpur (253000/ha). The test genotypes and checks matured between 110d (TVG 10342) to 115d (VG 13149). Shelling outturn was low (65%; PBS 15044) and high (72%; TVG 10342). The range for oil content observed was 48% (K 1847) to 54% (NRCGCS 592). The 100-seed weight was small (34 g) in ICGV 15327 and medium (45 g) in VG 13154. The oil ranged from 49% to 53% (in ICGV 15327). Protein content ranged from 24% (R 2001-2) to 28% (TVG 10342).

Conclusion

Across the three locations and over two years, none of the test genotypes significantly surpassed the yield levels of the best check, R 2001-2 (ZC) and hence none deserves promotion to AVT.

Zone V

There were nine centres, Dharwad, Raichur, Hiriyur (Karnataka); Vridhachalam, Tindivanam (Tamil Nadu); Kadiri, Tirupati (Andhra Pradesh); Digraj (southern Maharashtra) and Jagtial and Palem (Telengana) in this zone. The Jagtial centre has been phased as on 1 April 2018. Hence this centre did not conduct the second year trial and accordingly the data of this centre was not used for pooled analysis over locations. The Palem centre conducted the second year

trial of Jagtial centre and hence due to change of locations the data of this centre could also not be used for pooled analysis. The zonal check varieties used were R 2001-2, R 2001-3, GPBD 4, and VRI Gn6. The Coefficient of variation over five locations and years were around 15% for pod and kernel yields. The centre-wise results are presented below (**Tables 14a through 14c**).

Dharwad

In this location, the mean pod and kernel yields of the genotypes over two years were very high (2920 kg/ha and 2072 kg/ha respectively). Over two years, the zonal check variety, R 2001-3 was the best with a very high pod (3541 kg/ha) and kernel yield (2556 kg/ha). None of the test genotypes could significantly surpass the pod yield of this best check. But the test genotype, Dh 257 though missed the significance level for pod yield (4015 kg/ha) exhibited significant superiority for kernel yield (2918 kg/ha).

Raichur

In this location, the mean pod and kernel yields of the genotypes over two years were high (2465 kg/ha and 1729 kg/ha respectively). Over two years, the zonal check variety, R 2001-2 was the best for pod (3511 kg/ha) and kernel yield (2343 kg/ha) and surpassed the pod and kernel yield of other checks and test genotypes. Among the test genotypes, ICGV 15327 (3309 kg/ha) was the best for pod and for kernel yield, ICGV 07220 was the best (2247 kg/ha).

Hiriyur

In this centre over two years the pod (2329 kg/ha) and kernel yield (1469 kg/ha) were high. The CV%, over two years were very high (21.3%). The zonal check variety, R 2001-2 was the best for pod (2956 kg/ha) and kernel yield (1586 kg/ha). None of the test genotypes could significantly surpass the pod and kernel yield of this best check. Among the test genotypes, ICGV 07220 was the best for pod (3070 kg/ha) and kernel (2071 kg/ha) yield.

Vriddhachalam

In this centre over two years the pod (2155 kg/ha) and kernel yield (1426 kg/ha) were high to the region. The zonal check variety, R 2001-2 was the best for pod (2365 kg/ha) and kernel yield (1586 kg/ha). Among the test genotypes, K 1812 significantly surpassed (2781 kg/ha) the pod yield of the best check whereas, ICGV 07220 significantly surpassed (1840 kg/ha) the best check for kernel yield.

Tindivanam

In this location, the mean pod and kernel yields of the genotypes over two years were high (2699 kg/ha and 1852 kg/ha respectively). The zonal check variety, R 2001-2 was the best for pod (3161 kg/ha) and kernel yield (2170 kg/ha). None of the test genotypes could significantly surpass the pod and kernel yield of this best check. Among the test genotypes, K 1809 was the best for pod (2781 kg/ha) and kernel (2362 kg/ha) yield.

Kadiri

In this location, the mean pod and kernel yields of the genotypes over two years were high (2886 kg/ha and 2006 kg/ha respectively). The zonal check variety, R 2001-2 was the best for pod (3543 kg/ha) and kernel yield (2457 kg/ha). Among the test genotypes, K 1812 significantly surpassed the best check both for pod (3918 kg/ha) and kernel (2828 kg/ha) yield.

Tirupati

In this location, the mean pod (2567 kg/ha) and kernel (1651 kg/ha) yields of the genotypes over two years were high. At this centre the CV% over two years were very high (20.2%). The zonal check variety, R 2001-2 was the best for pod (2588 kg/ha) and R 2001-3 was the best for kernel (1628 kg/ha) yield. Four test genotypes, Dh 257 (3270 kg/ha of pod; 2227 kg/ha of kernel); K 1812 (3490 kg/ha of pod; 2310 kg/ha of kernel); ICGV 15327 (3576 kg/ha of pod; 2287 kg/ha of kernel); and ICGV 07220 (3465 kg/ha of pod; 2323 kg/ha of kernel) recorded significant higher pod (except for Dh 257) and kernel yields over the best check respectively.

Jagtial

The Jagtial centre has been phased as on 1 April 2018. Hence this centre did not conduct the second year trial and accordingly the data of this centre was not used for pooled analysis over locations. In this centre the pod (2678 kg/ha) and kernel yield (1707 kg/ha) during kharif 2017 were high. In *kharif* 2017, the zonal check variety, R 2001-3 was the best with a very high pod (3189 kg/ha) and kernel yield (2067 kg/ha). Three test genotypes, K 1812 (5486 kg/ha of pod; 3448 kg/ha of kernel); K 1809 (4676 kg/ha of pod; 2861 kg/ha of kernel); and ICGV 15327 (3924 kg/ha of pod; 2501 kg/ha of kernel) recorded significant higher pod and kernel yields over the best check respectively.

Palem

The Palem centre conducted the second year trial of Jagtial centre and hence due to change of locations the data of this centre could also not be used for pooled analysis. In this centre the pod (1630 kg/ha) and kernel yield (1007 kg/ha) during kharif 2018 were very low. In *kharif* 2018, the zonal check variety, R 2001-3 was the best for pod (1663 kg/ha) and kernel yield (1163 kg/ha). Among the test genotypes although six genotypes significantly surpassed those of best check, all of them lost their significance level for kernel yield.

Zonal Mean Performances

In this zone, the mean pod and kernel yields of the genotypes over two years and seven locations were high (2574 kg/ha and 1744 kg/ha respectively). Across seven locations and over two years, the zonal check variety, R 2001-2 was the best for pod (3088 kg/ha) and kernel (2072 kg/ha). None of the test genotypes significantly surpassed the pod and kernel yield levels of the best check, R 2001-2 (ZC). Among the test genotypes, K 1812 was found the best for pod (3385 kg/ha) and kernel (2346 kg/ha).

Ancillary Observation

Plant stand was low at Dharwad (166000/ha), and Hiriya (192000/ha) and sub-optimal at Vridhachalam (269000/ha), Kadiri (270000/ha), and Tirupati (243000/ha). The test genotypes and checks matured around 109-114 days. Shelling outturn ranged between 63% (VG 13159, CAU GS 1) and 71% (Dh 257, UG 160, TVG 10342). The 100-seed weight was low (31 g) in GPBD 4, Dh 232 and 46g in TVG 1622. Oil content ranged from 48% (K 1847) to 52% (ICGV 15327). Protein content ranged from 25%-28%.

Conclusion

Across the seven locations and over two years, none of the test genotypes significantly surpassed the yield levels of the best check, R 2001-2 (ZC) and hence none deserves promotion to AVT.

ZONE I

Table 10a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED
Pod yield (kg/ha)

S.N.	Entry	Mainpuri			Durgapura			Bikaner *			Ludhiana			Bawal **	Pooled mean (3 Ctrs)	R
		2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017		
1	ISK I 2017-1 TCGS 1622	1111	1621	1366	3443	2726	3085	3150	1913	2531	3338	1698	2518	1733	2323	18
2	ISK I 2017-2 VG 13159	1169	1968	1569	3310	3206	3258	717	1627	1172	3007	2406	2706	1867	2511	15
3	ISK I 2017-3 JCG 4798	1088	1794	1441	2952	2633	2792	2583	2847	2715	3715	2257	2986	2222	2407	17
4	ISK I 2017-4 UG 160	1459	1910	1684	3472	2303	2888	4216	2134	3175	1770	2324	2047	2213	2206	19
5	ISK I 2017-5 J 95	1042	2315	1678	3675	3988	3831	2438	1603	2020	1126	5583	3355	3467	2955	8
6	ISK I 2017-6 VG 13154	1204	2083	1643	4445	2911	3678	2325	1323	1824	2767	2246	2506	3253	2609	14
7	ISK I 2017-7 Dh 232	1227	1852	1539	3947	1979	2963	2191	1034	1612	888	562	725	809	1742	21
8	ISK I 2017-8 CAU-GS1	1042	2199	1620	4523	3033	3778	3458	1570	2514	2191	1509	1850	1791	2416	16
9	ISK I 2017-9 J 96	1181	1621	1401	4086	3993	4039	3577	3330	3453	1615	5777	3696	3156	3045	6
10	ISK I 2017-10 Dh 257	1644	2199	1921	4534	2610	3572	3782	1850	2816	1539	3169	2354	3867	2616	13
11	ISK I 2017-11 VG 13149	1181	2257	1719	4242	3096	3669	4747	1503	3125	3401	2353	2877	1911	2755	10
12	ISK I 2017-12 TVG 10342	972	1968	1470	3695	2708	3202	2750	2437	2593	1903	1793	1848	1667	2173	20
13	ISK I 2017-14 K 1812	1783	2373	2078	4149	3970	4060	4203	1720	2962	2586	3324	2955	3889	3031	7
14	ISK I 2017-15 PBS 12196	1852	2604	2228	4375	4178	4277	4467	3947	4207	4960	3573	4267	3845	3590	1
15	ISK I 2017-16 K 1809	1736	2315	2026	3791	2373	3082	2603	2300	2451	2807	3203	3005	3178	2704	11
16	ISK I 2017-18 PBS 15044	1088	2037	1563	4415	4184	4300	2734	860	1797	2599	5301	3950	3667	3271	4
17	ISK I 2017-19 JL 977	1551	1621	1586	4766	3658	4212	4189	3517	3853	1383	3050	2217	3467	2671	12
18	ISK I 2017-20 ICGV 15327	1667	2257	1962	3582	3848	3715	4103	2317	3210	2486	2905	2696	3267	2791	9
19	ISK I 2017-22 ICGV 07220	1922	2836	2379	4693	3907	4300	4319	3907	4113	2554	3311	2933	4200	3204	5
20	ISK I 2017-24 TAG 24 (ZC)	1516	1806	1661	4352	3414	3883	3256	2290	2773	3942	5038	4490	4111	3345	3
21	ISK I 2017-25 TG 37A (ZC)	996	1852	1424	5385	3814	4599	4045	2397	3221	2713	6093	4403	3755	3475	2
	GM	1354	2071	1712	4087	3263	3675	3326	2211	2768	2537	3213	2875	2921	2754	
	S.E. Diff. Mean	57.2	97.1	79.7	291.5	260.4	276.4	503.0	547.5	525.7	211.7	226.3	219.1	136.0	208.8	
	CD at 5%	114.5	194.2	157.8	583.1	520.9	547.3	1006.1	1095.1	1040.9	423.5	452.5	433.8	272.0	409.2	
	CV%	6.0	6.6	6.6	10.1	11.3	10.6	21.4	35.0	26.9	11.8	10.0	10.8	6.6	10.7	

* Not included in the pooled analysis due to high CV %

** Not included in the pooled analysis as trial conducted only for one year

Table 10b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED

S.N.	Entry	Kernel yield (kg/ha)															R
		Mainpuri			Durgapura			Bikaner *			Ludhiana			Bawal **	Pooled mean (3 Ctrs)		
		2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017			
1	ISK I 2017-1 TCGS 1622	756	1134	945	2406	1875	2140	1837	1308	1573	2415	1233	1824	1054	1636	17	
2	ISK I 2017-2 VG 13159	807	1338	1072	2092	2050	2071	400	1075	738	2023	1603	1813	1029	1652	16	
3	ISK I 2017-3 JCG 4798	761	1274	1018	1998	1846	1922	1491	1821	1656	2600	1480	2040	1295	1660	15	
4	ISK I 2017-4 UG 160	1036	1356	1196	2322	1660	1991	2156	1439	1797	1277	1569	1423	1544	1537	19	
5	ISK I 2017-5 J 95	750	1620	1185	2578	2874	2726	1378	1011	1194	797	3854	2325	2121	2079	7	
6	ISK I 2017-6 VG 13154	831	1428	1129	2831	1832	2332	1376	755	1065	1926	1469	1697	1988	1719	14	
7	ISK I 2017-7 Dh 232	834	1290	1062	2560	1268	1914	1118	543	831	583	416	500	481	1158	21	
8	ISK I 2017-8 CAU-GS1	709	1561	1135	2921	1988	2454	1815	949	1382	1552	988	1270	1071	1620	18	
9	ISK I 2017-9 J 96	850	1134	992	2924	2958	2941	1917	2205	2061	1106	4015	2561	2167	2165	6	
10	ISK I 2017-10 Dh 257	1167	1562	1365	3373	1665	2519	2049	1350	1700	1135	1981	1558	2634	1814	12	
11	ISK I 2017-11 VG 13149	814	1536	1175	2711	1999	2355	2667	923	1795	2335	1532	1934	1083	1821	11	
12	ISK I 2017-12 TVG 10342	671	1378	1025	2405	1952	2178	1546	1675	1611	1362	1212	1287	1103	1497	20	
13	ISK I 2017-14 K 1812	1213	1686	1449	2715	2670	2693	2320	1185	1753	1522	2349	1935	2601	2026	8	
14	ISK I 2017-15 PBS 12196	1333	1876	1605	3076	3033	3054	2604	2747	2676	3687	2567	3127	2764	2595	1	
15	ISK I 2017-16 K 1809	1181	1619	1400	2489	1521	2005	1496	1540	1518	2092	2243	2168	2134	1858	10	
16	ISK I 2017-18 PBS 15044	751	1445	1098	3110	2870	2990	1230	541	886	1868	3754	2811	2444	2300	4	
17	ISK I 2017-19 JL 977	1039	1120	1079	3050	2337	2693	2078	2587	2333	920	2057	1489	2172	1754	13	
18	ISK I 2017-20 ICGV 15327	1167	1580	1373	2354	2455	2405	2297	1666	1982	1803	1914	1858	2257	1879	9	
19	ISK I 2017-22 ICGV 07220	1383	2008	1696	3041	2571	2806	2199	2726	2463	1781	2354	2067	2728	2190	5	
20	ISK I 2017-24 TAG 24 (ZC)	1076	1263	1170	3061	2443	2752	1605	1431	1518	2747	3527	3137	2755	2353	3	
21	ISK I 2017-25 TG 37A (ZC)	697	1278	988	3748	2777	3262	2236	1557	1896	1857	4252	3055	2507	2435	2	
	GM	944	1452	1198	2751	2221	2486	1801	1478	1639	1780	2208	1994	1902	1893		
	S.E. Diff. Mean	40.5	73.2	59.2	197.9	178.0	188.2	312.1	407.2	362.7	160.2	189.3	175.4	90.2	152.4		
	CD at 5%	81.1	146.5	117.2	395.8	356.0	372.6	624.2	814.4	718.2	320.5	378.6	347.2	180.4	298.7		
	CV%	6.1	7.1	7.0	10.2	11.3	10.7	24.5	39.0	31.3	12.7	12.1	12.4	6.7	11.4		

* Not included in the pooled analysis due to high CV %

** Not included in the pooled analysis as trial conducted only for one year

Table 10c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED

Ancillary traits

S. N.	Entry	Trait	Mainpuri			Durgapura			Bikaner *			Ludhiana			Bawal **	Pooled mean (3 Ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	
1	ISK I 2017-1 TCGS 1622	PS	312	319	316	321	325	323	312	145	228	204	290	247	165	295
		D	100	100	100	111	112	112	-	-	-	101	102	101	120	104
		S	68	70	69	70	69	69	58	66	62	72	73	73	61	70
		HKW	36	37	37	46	56	51	-	-	-	47	48	47	55	45
		SMK	94	96	95	94	93	94	-	-	-	86	79	83	68	90
		O	48	47	48	49	48	49	-	-	-	53	49	51	-	49
		P	26	26	26	30	27	29	-	-	-	28	-	28	-	28
2	ISK I 2017-2 VG 13159	PS	293	312	303	322	307	315	311	109	210	207	285	246	100	288
		D	102	101	101	112	113	113	-	-	-	110	113	111	124	108
		S	69	68	69	63	64	64	56	64	60	67	66	67	55	66
		HKW	37	38	38	47	51	49	-	-	-	55	47	51	47	46
		SMK	90	95	93	93	94	94	-	-	-	85	81	83	83	90
		O	49	47	48	50	50	50	-	-	-	49	48	49	-	49
		P	24	26	25	28	26	27	-	-	-	28	-	28	-	27
3	ISK I 2017-3 JCG 4798	PS	306	294	300	321	312	316	304	133	218	199	263	231	171	282
		D	105	104	105	107	108	108	-	-	-	103	100	102	121	105
		S	70	71	71	68	70	69	58	61	59	70	65	68	58	69
		HKW	38	40	39	47	54	50	-	-	-	51	40	46	51	45
		SMK	90	94	92	94	90	92	-	-	-	85	85	85	76	90
		O	49	45	47	49	48	49	-	-	-	50	50	50	-	48
		P	26	28	27	30	27	29	-	-	-	28	-	28	-	28
4	ISK I 2017-4 UG 160	PS	322	310	316	327	307	317	305	116	210	178	287	232	233	288
		D	101	100	100	108	108	108	-	-	-	112	116	114	121	107
		S	71	71	71	67	72	70	51	68	59	72	67	70	70	70
		HKW	29	32	31	29	38	34	-	-	-	36	48	42	40	35
		SMK	86	92	89	94	96	95	-	-	-	85	92	89	69	91
		O	48	47	47	48	47	48	-	-	-	50	49	49	-	48
		P	25	26	26	28	28	28	-	-	-	28	-	28	-	27
5	ISK I 2017-5 J 95	PS	301	299	300	319	315	317	313	124	218	208	287	247	195	288
		D	100	99	100	111	112	112	-	-	-	113	117	115	121	109
		S	72	70	71	70	72	71	56	64	60	71	69	70	61	71
		HKW	36	37	37	35	49	42	-	-	-	43	41	42	51	40
		SMK	92	95	94	96	96	96	-	-	-	82	88	85	84	91
		O	48	46	47	49	49	49	-	-	-	52	50	51	-	49
		P	25	27	26	28	27	27	-	-	-	27	-	27	-	27
6	ISK I 2017-6 VG 13154	PS	301	306	303	325	325	325	303	97	200	267	256	262	191	297
		D	100	101	100	108	107	108	-	-	-	109	108	108	124	105
		S	69	68	69	64	63	63	59	58	58	70	65	68	61	66
		HKW	32	34	33	45	45	45	-	-	-	48	45	47	56	41
		SMK	97	98	98	92	86	89	-	-	-	83	89	86	80	91
		O	47	44	46	49	47	48	-	-	-	51	49	50	-	48
		P	24	28	26	27	27	27	-	-	-	27	-	27	-	27
7	ISK I 2017-7 Dh 232	PS	315	312	314	328	313	321	316	112	214	241	299	270	169	301
		D	102	104	103	107	107	107	-	-	-	108	106	107	120	106
		S	68	70	69	65	64	65	51	53	52	66	74	70	60	68
		HKW	27	32	30	29	32	30	-	-	-	29	37	33	33	31
		SMK	94	96	95	90	95	93	-	-	-	81	87	84	67	90
		O	51	50	50	51	50	51	-	-	-	52	49	50	-	50
		P	25	26	25	29	26	28	-	-	-	29	-	29	-	27

S. N.	Entry	Trait	Mainpuri			Durgapura			Bikaner *			Ludhiana			Bawal	Pooled mean (3 Ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	
8	ISK I 2017-8 CAU-GS1	PS	302	292	297	331	312	321	310	94	202	219	302	260	124	293
		D	104	103	104	114	114	114	-	-	-	112	114	113	122	110
		S	68	71	70	65	66	65	52	62	57	71	65	68	60	68
		HKW	30	34	32	44	46	45	-	-	-	46	42	44	48	40
		SMK	95	97	96	90	84	87	-	-	-	82	73	77	69	87
		O	50	48	49	52	51	51	-	-	-	53	48	50	-	50
		P	22	25	24	28	26	27	-	-	-	29	-	29	-	27
9	ISK I 2017-9 J 96	PS	312	303	308	328	313	321	304	126	215	192	285	239	197	289
		D	100	101	101	109	110	110	-	-	-	99	100	99	120	103
		S	72	70	71	72	74	73	54	67	60	68	70	69	69	71
		HKW	32	36	34	43	55	49	-	-	-	40	55	47	49	43
		SMK	92	94	93	94	96	95	-	-	-	87	80	83	75	90
		O	49	47	48	50	48	49	-	-	-	52	49	51	-	49
		P	26	27	26	29	27	28	-	-	-	28	-	28	-	28
10	ISK I 2017-10 Dh 257	PS	289	301	295	324	307	315	300	114	207	212	275	243	163	285
		D	102	104	103	107	108	108	-	-	-	103	103	103	123	105
		S	71	71	71	74	64	69	53	72	62	74	63	68	68	69
		HKW	31	32	32	44	35	39	-	-	-	40	43	41	42	37
		SMK	94	95	95	96	83	90	-	-	-	86	80	83	78	89
		O	51	50	50	51	49	50	-	-	-	50	50	50	-	50
		P	27	26	26	31	27	29	-	-	-	29	-	29	-	28
11	ISK I 2017-11 VG 13149	PS	301	310	306	328	315	322	303	107	205	249	292	271	128	299
		D	99	100	100	108	108	108	-	-	-	112	115	114	122	107
		S	69	68	69	64	65	64	56	59	57	69	65	67	57	67
		HKW	32	34	33	44	50	47	-	-	-	54	48	51	49	44
		SMK	96	97	97	95	88	92	-	-	-	83	88	85	71	91
		O	51	47	49	50	49	49	-	-	-	51	49	50	-	50
		P	24	26	25	29	27	28	-	-	-	29	-	29	-	27
12	ISK I 2017-12 TVG 10342	PS	299	310	304	324	321	323	303	125	214	190	291	240	144	289
		D	97	101	99	108	109	109	-	-	-	108	110	109	120	105
		S	69	70	70	65	72	69	56	68	62	72	68	70	66	69
		HKW	30	29	30	26	45	36	-	-	-	39	44	41	53	35
		SMK	90	94	92	92	96	94	-	-	-	81	85	83	68	90
		O	48	46	47	49	47	48	-	-	-	50	49	49	-	48
		P	25	27	26	28	27	28	-	-	-	30	-	30	-	28
13	ISK I 2017-14 K 1812	PS	306	319	312	328	322	325	305	102	203	273	281	277	207	305
		D	98	101	100	112	112	112	-	-	-	103	103	103	124	105
		S	68	71	70	65	67	66	55	69	62	59	71	65	67	67
		HKW	35	36	36	33	40	37	-	-	-	35	35	35	53	36
		SMK	92	95	94	93	87	90	-	-	-	87	84	85	67	90
		O	50	47	49	51	49	50	-	-	-	53	48	51	-	50
		P	26	26	26	29	26	28	-	-	-	27	-	27	-	27
14	ISK I 2017-15 PBS 12196	PS	317	317	317	319	318	319	304	120	212	238	287	262	239	299
		D	100	100	100	110	111	111	-	-	-	110	107	108	124	106
		S	72	72	72	70	73	71	58	70	64	74	72	73	72	72
		HKW	33	35	34	44	55	49	-	-	-	51	53	52	55	45
		SMK	96	98	97	93	95	94	-	-	-	83	81	82	86	91
		O	49	46	48	50	50	50	-	-	-	53	49	51	-	49
		P	23	27	25	28	26	27	-	-	-	28	-	28	-	27

S. N.	Entry	Trait	Mainpuri			Durgapura			Bikaner *			Ludhiana			Bawal **	Pooled mean (3 Ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	
15	ISK I 2017-16 K 1809	PS	312	312	312	331	311	321	309	158	233	196	289	243	225	292
		D	105	102	104	109	110	110	-	-	-	109	109	109	122	107
		S	68	70	69	66	64	65	57	67	62	75	70	72	67	69
		HKW	32	34	33	28	38	33	-	-	-	36	38	37	39	34
		SMK	94	96	95	89	96	93	-	-	-	82	78	80	76	89
		O	50	49	50	50	50	50	-	-	-	52	49	50	-	50
		P	25	25	25	29	26	28	-	-	-	28	-	28	-	27
16	ISK I 2017-18 PBS 15044	PS	315	310	312	336	319	328	309	104	206	300	282	291	209	311
		D	102	104	103	109	109	109	-	-	-	111	113	112	123	108
		S	69	71	70	70	69	70	45	60	52	72	71	71	67	70
		HKW	31	32	32	51	61	56	-	-	-	53	53	53	61	47
		SMK	92	91	91	93	95	94	-	-	-	87	86	86	81	90
		O	50	45	48	51	50	51	-	-	-	53	48	51	-	50
		P	25	27	26	30	27	28	-	-	-	28	-	28	-	27
17	ISK I 2017-19 JL 977	PS	315	324	319	322	326	324	311	140	225	225	280	253	209	299
		D	106	105	106	113	114	114	-	-	-	107	105	106	122	108
		S	67	69	68	64	64	64	49	74	62	66	68	67	63	66
		HKW	28	32	30	31	41	36	-	-	-	38	38	38	45	35
		SMK	90	94	92	92	94	93	-	-	-	82	59	70	66	85
		O	49	47	48	50	49	49	-	-	-	53	49	51	-	50
		P	24	26	25	29	27	28	-	-	-	28	-	28	-	27
18	ISK I 2017-20 ICGV 15327	PS	319	317	318	317	319	318	305	125	215	246	283	264	228	300
		D	104	104	104	113	113	113	-	-	-	109	114	111	123	109
		S	70	70	70	66	64	65	56	72	64	73	66	69	69	68
		HKW	30	34	32	28	38	33	-	-	-	37	33	35	40	33
		SMK	94	96	95	92	91	92	-	-	-	83	90	87	81	91
		O	53	44	48	51	51	51	-	-	-	53	49	51	-	50
		P	25	27	26	29	26	28	-	-	-	29	-	29	-	28
19	ISK I 2017-22 ICGV 07220	PS	317	306	311	337	310	323	309	157	233	220	273	246	217	294
		D	105	102	104	109	110	110	-	-	-	114	118	116	121	110
		S	72	71	71	65	66	65	51	70	61	70	71	70	65	69
		HKW	29	32	31	37	40	38	-	-	-	40	38	39	47	36
		SMK	90	92	91	90	88	89	-	-	-	88	77	83	73	88
		O	50	46	48	52	49	51	-	-	-	52	48	50	-	50
		P	25	26	26	28	26	27	-	-	-	28	-	28	-	27
20	ISK I 2017-24 TAG 24 (ZC)	PS	317	308	312	331	321	326	312	145	229	298	309	304	236	314
		D	107	108	108	107	108	108	-	-	-	102	103	102	120	106
		S	71	70	71	70	72	71	47	47	47	70	70	70	67	70
		HKW	28	30	29	39	48	44	-	-	-	44	43	44	53	39
		SMK	95	95	95	91	90	91	-	-	-	86	86	86	71	91
		O	49	47	48	50	49	49	-	-	-	52	49	50	-	49
		P	25	27	26	28	27	27	-	-	-	27	-	27	-	27
21	ISK I 2017-25 TG 37A (ZC)	PS	310	296	303	334	326	330	306	147	226	213	299	256	237	296
		D	104	105	105	110	110	110	-	-	-	99	101	100	119	105
		S	70	69	70	70	73	71	55	66	60	68	70	69	67	70
		HKW	30	32	31	39	50	45	-	-	-	44	43	43	51	40
		SMK	92	94	93	92	89	91	-	-	-	85	82	83	81	89
		O	49	48	49	50	49	50	-	-	-	53	50	51	-	50
		P	25	26	25	28	27	27	-	-	-	27	-	27	-	27
Final plant stand (000/ha)																
	G.M		309	309	309	326	316	321	307	124	216	227	285	256	190	295
	S.E. Diff. Mean		6.3	6.9	6.6	4.7	4.9	7.9	6.3	13.3	10.4	12.5	4.9	9.5	6.3	7.2
	CD at 5%		12.5	13.9	13.1	9.4	9.8	15.7	NS	26.6	20.6	24.9	9.9	18.7	12.6	14.1
	CV %		2.9	3.1	3.0	2.0	2.2	2.1	2.9	15.2	6.8	7.7	2.4	5.2	4.7	3.5

* Not included in the pooled analysis due to high CV %

** Not included in the pooled analysis as trial conducted only for one year

ZONE II

Table 11a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED

Pod yield (kg/ha)

S.N.	Entry	Junagadh			Amreli *			Talod			Udaipur			Pooled mean (3ctrs)	R
		2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		
1	ISK I 2017-1 TCGS 1622	1807	2201	2004	1161	1250	1206	3183	2026	2605	2370	2957	2663	2424	21
2	ISK I 2017-2 VG 13159	1683	1848	1765	835	1111	973	2836	2187	2511	3490	3797	3643	2640	17
3	ISK I 2017-3 JCG 4798	1947	2499	2223	1034	1231	1133	2778	2443	2610	2327	2952	2639	2491	19
4	ISK I 2017-4 UG 160	1713	2549	2131	1194	1258	1226	2547	2419	2483	3548	4537	4042	2885	10
5	ISK I 2017-5 J 95	2082	2247	2164	1048	1489	1268	3704	2523	3114	2960	3444	3202	2827	12
6	ISK I 2017-6 VG 13154	1429	1424	1426	980	1107	1043	2546	2350	2448	3235	3143	3189	2355	22
7	ISK I 2017-7 Dh 232	1402	2168	1785	648	1007	828	1389	1551	1470	2711	3368	3040	2098	23
8	ISK I 2017-8 CAU-GS1	2217	2115	2166	839	1115	977	3414	2350	2882	3160	3270	3215	2754	14
9	ISK I 2017-9 J 96	1986	2519	2252	1200	1532	1366	4109	3241	3675	3197	3021	3109	3012	5
10	ISK I 2017-10 Dh 257	3055	3513	3284	1647	1644	1646	4051	2361	3206	2766	3223	2995	3161	1
11	ISK I 2017-11 VG 13149	1734	1987	1861	932	1277	1105	3009	2396	2703	2468	3004	2736	2433	20
12	ISK I 2017-12 TVG 10342	1825	2684	2255	1046	1328	1187	3646	1840	2743	3114	2457	2785	2594	18
13	ISK I 2017-14 K 1812	2656	3379	3017	1254	2246	1750	4051	2685	3368	3145	2795	2970	3118	2
14	ISK I 2017-15 PBS 12196	1602	2658	2130	951	1111	1031	4861	2928	3895	2769	3415	3092	3039	4
15	ISK I 2017-16 K 1809	2187	3316	2752	1458	1968	1713	3588	2280	2934	3293	3264	3278	2988	6
16	ISK I 2017-18 PBS 15044	1209	1856	1533	808	1254	1031	4688	3033	3860	2436	3663	3050	2814	13
17	ISK I 2017-19 JL 977	2530	2914	2722	1584	2272	1928	3067	2361	2714	2804	3964	3384	2940	7
18	ISK I 2017-20 ICGV 15327	2224	3450	2837	1202	2022	1612	3125	2234	2680	3166	3212	3189	2902	9
19	ISK I 2017-22 ICGV 07220	2547	3681	3114	1549	2072	1811	3993	2604	3299	2697	2879	2788	3067	3
20	ISK I 2017-25 TG 37A (ZC)	1618	2311	1965	806	1655	1231	3646	2477	3062	3110	2682	2896	2641	16
21	ISK I 2017-26 GG 7 (ZC)	2024	2818	2421	1370	1593	1481	3472	2061	2767	2952	3657	3304	2831	11
22	ISK I 2017-27 SG 99 (ZC)	2109	2457	2283	1287	1246	1266	4109	2778	3444	2977	3125	3051	2926	8
23	ISK I 2017-28 JL 501 (ZC)	1995	2489	2242	1223	1783	1503	3762	2755	3258	2848	2312	2580	2693	15
	GM	1982	2569	2275	1133	1503	1318	3460	2430	2945	2937	3224	3080	2767	
	S.E. Diff. Mean	186.0	229.9	209.1	83.8	121.8	104.6	367.1	251.4	314.6	365.5	449.9	296.7	321.8	
	CD at 5%	371.3	459.8	413.9	167.4	243.6	207.1	733.0	502.9	623.0	729.8	899.8	NS	630.8	
	CV%	13.3	12.7	13.0	10.5	11.5	11.2	15.0	14.6	15.1	17.6	19.7	18.8	16.5	

* The centre not included in the pooled analysis because its pod yield was below triennial national average (1436 kg/ha).

Table 11b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED

Kernel yield (kg/ha)

S.N.	Entry	Junagadh			Amreli *			Talod			Udaipur			Pooled mean (3ctrs)	R
		2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		
1	ISK I 2017-1 TCGS 1622	1309	1611	1460	792	813	803	2238	1308	1773	1724	2126	1925	1719	18
2	ISK I 2017-2 VG 13159	1066	1144	1105	448	548	498	1682	1200	1441	2127	2452	2289	1612	20
3	ISK I 2017-3 JCG 4798	1300	1844	1572	656	713	684	1950	1487	1718	1528	1981	1754	1682	19
4	ISK I 2017-4 UG 160	1312	1917	1614	821	814	817	1673	1626	1650	2563	3286	2924	2063	6
5	ISK I 2017-5 J 95	1503	1643	1573	638	889	764	2641	1648	2145	2138	2435	2286	2001	10
6	ISK I 2017-6 VG 13154	914	879	897	568	551	559	1535	1281	1408	1962	1998	1980	1428	23
7	ISK I 2017-7 Dh 232	954	1596	1275	349	446	397	933	952	943	1928	2380	2154	1457	22
8	ISK I 2017-8 CAU-GS1	1399	1400	1399	457	539	498	2182	1358	1770	1934	2103	2018	1729	17
9	ISK I 2017-9 J 96	1411	1858	1634	754	889	822	2877	2157	2517	2254	2107	2181	2111	2
10	ISK I 2017-10 Dh 257	2280	2606	2443	1073	981	1027	2925	1642	2283	2042	2329	2186	2304	1
11	ISK I 2017-11 VG 13149	1101	1261	1181	517	653	585	1983	1273	1628	1504	1895	1699	1503	21
12	ISK I 2017-12 TVG 10342	1348	2047	1697	719	889	804	2640	1207	1923	2258	1759	2008	1876	15
13	ISK I 2017-14 K 1812	1886	2315	2101	817	1384	1101	2937	1752	2345	1869	1756	1813	2086	4
14	ISK I 2017-15 PBS 12196	1117	1919	1518	580	636	608	3242	1790	2516	2062	2458	2260	2098	3
15	ISK I 2017-16 K 1809	1490	2298	1894	889	1232	1061	2454	1443	1949	2175	2219	2197	2013	9
16	ISK I 2017-18 PBS 15044	814	1304	1059	457	699	578	3061	1912	2487	1688	2553	2120	1889	14
17	ISK I 2017-19 JL 977	1680	1961	1820	953	1302	1127	2122	1434	1778	1809	2566	2187	1929	13
18	ISK I 2017-20 ICGV 15327	1438	2408	1923	748	1153	951	2085	1448	1766	2109	2159	2134	1941	12
19	ISK I 2017-22 ICGV 07220	1750	2637	2193	997	1250	1124	2751	1670	2211	1716	1879	1798	2067	5
20	ISK I 2017-25 TG 37A (ZC)	1139	1705	1422	487	987	737	2381	1494	1937	2215	1887	2051	1804	16
21	ISK I 2017-26 GG 7 (ZC)	1442	2088	1765	942	1038	990	2493	1374	1934	2145	2593	2369	2022	8
22	ISK I 2017-27 SG 99 (ZC)	1496	1799	1647	822	674	748	2802	1818	2310	2105	2211	2158	2038	7
23	ISK I 2017-28 JL 501 (ZC) GM	1478	1900	1689	816	1122	969	2799	1860	2329	2061	1651	1856	1958	11
	S.E. Diff. Mean	131.0	163.6	148.2	55.8	76.9	67.2	254.5	187.9	223.7	252.5	311.1	283.3	225.3	
	CD at 5%	261.6	327.2	293.4	111.4	153.7	133.0	508.1	375.9	442.9	504.1	622.1	NS	441.5	
	CV%	13.5	12.6	13.1	11.1	12.4	12.0	15.2	17.4	16.3	17.9	19.9	19.1	16.9	

* The centre not included in the pooled analysis because its pod yield was below triennial national average (1436 kg/ha).

Table 11c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED

S.N.	Entry	Trait	Ancillary traits												Pooled mean (3ctrs)
			Junagadh			Amreli *			Talod			Udaipur			
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	
1	ISK I 2017-1 TCGS 1622	PS	318	308	313	200	211	206	264	297	281	329	326	328	307
		D	103	93	98	104	104	104	128	110	119	95	98	97	105
		S	72	73	73	68	65	67	70	64	67	73	72	73	71
		HKW	46	51	48	37	36	37	48	57	53	43	44	44	48
		SMK	94	98	96	97	99	98	-	80	80	87	90	89	88
		O	51	46	49	48	48	48	-	52	-	47	47	47	48
		P	27	28	27	29	27	28	-	25	-	30	28	29	28
2	ISK I 2017-2 VG 13159	PS	316	308	312	204	211	208	284	263	274	330	329	330	305
		D	110	93	102	110	112	111	127	109	118	102	103	103	107
		S	63	62	63	54	49	51	59	55	57	61	65	63	61
		HKW	46	38	42	32	28	30	42	48	45	41	44	43	43
		SMK	94	84	89	91	94	92	-	82	82	91	91	91	87
		O	49	48	49	48	48	48	-	51	-	47	49	48	48
		P	25	28	26	26	28	27	-	27	-	26	27	27	27
3	ISK I 2017-3 JCG 4798	PS	311	306	309	205	214	210	281	237	259	332	327	330	299
		D	105	92	99	110	113	112	127	110	119	96	99	98	105
		S	67	74	70	63	58	60	70	59	65	66	75	71	69
		HKW	38	50	44	32	36	34	38	58	48	41	45	43	45
		SMK	92	90	91	94	95	94	-	66	66	86	90	88	82
		O	50	47	49	48	49	48	-	53	-	48	47	48	48
		P	27	27	27	28	28	28	-	25	-	30	28	29	28
4	ISK I 2017-4 UG 160	PS	312	310	311	213	209	211	331	265	298	330	330	330	313
		D	105	91	98	105	104	105	128	110	119	94	95	95	104
		S	77	75	76	69	65	67	66	67	66	73	73	73	72
		HKW	33	41	37	26	30	28	28	48	38	35	42	39	38
		SMK	95	93	94	98	96	97	-	55	55	86	90	88	79
		O	51	48	49	48	48	48	-	51	-	48	47	47	48
		P	25	27	26	28	28	28	-	26	-	28	28	28	27
5	ISK I 2017-5 J 95	PS	313	312	313	206	208	207	322	280	301	333	331	332	315
		D	104	91	98	111	110	110	126	108	117	92	97	95	103
		S	72	73	73	61	60	60	71	65	68	72	71	72	71
		HKW	37	42	39	29	31	30	44	50	47	41	41	41	42
		SMK	93	94	94	97	98	97	-	61	61	92	92	92	82
		O	51	47	49	48	51	49	-	50	-	49	49	49	49
		P	25	28	26	27	27	27	-	26	-	29	28	28	27
6	ISK I 2017-6 VG 13154	PS	319	312	316	206	206	206	277	273	275	330	328	329	307
		D	106	93	100	115	112	113	127	110	119	98	100	99	106
		S	64	62	63	58	50	54	60	54	57	61	63	62	61
		HKW	31	39	35	34	27	31	40	55	48	41	44	43	42
		SMK	80	88	84	95	97	96	-	61	61	91	91	91	79
		O	49	47	48	47	47	47	-	49	-	47	48	47	48
		P	26	28	27	27	28	28	-	27	-	26	27	27	27
7	ISK I 2017-7 Dh 232	PS	317	306	312	204	201	203	301	186	243	332	329	331	295
		D	105	91	98	112	115	113	128	109	119	95	97	96	104
		S	68	74	71	54	44	49	67	61	64	71	71	71	69
		HKW	24	29	26	21	20	21	22	34	28	30	41	36	30
		SMK	82	84	83	84	87	85	-	63	63	91	88	90	79
		O	53	52	52	47	50	48	-	54	-	51	49	50	51
		P	26	26	26	27	27	27	-	25	-	26	27	27	26
8	ISK I 2017-8 CAU-GS1	PS	310	319	315	184	211	198	262	199	230	331	330	331	292
		D	107	92	100	116	112	114	127	110	119	102	103	103	107
		S	63	66	65	54	48	51	64	58	61	61	64	63	63
		HKW	34	38	36	24	24	24	38	48	43	39	41	40	40
		SMK	95	85	90	89	90	89	-	42	42	85	89	87	73
		O	52	50	51	49	49	49	-	55	-	51	52	52	51
		P	26	26	26	26	28	27	-	25	-	27	26	26	26

S.N.	Entry	Trait	Junagadh			Amreli *			Talod			Udaipur			Pooled mean (3ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	
9	ISK I 2017-9 J 96	PS	315	317	316	203	210	207	308	234	271	332	333	333	306
		D	99	90	95	113	111	112	128	109	119	97	98	98	104
		S	71	74	72	63	58	60	70	67	69	71	70	71	71
		HKW	35	48	42	29	31	30	40	53	47	41	44	43	44
		SMK	91	94	93	96	96	96	-	47	47	90	91	91	77
		O	52	50	51	48	49	48	-	50	-	49	47	48	49
		P	26	27	26	27	28	27	-	26	-	29	28	28	27
10	ISK I 2017-10 Dh 257	PS	320	306	313	198	198	198	307	289	298	329	330	330	314
		D	103	92	98	104	108	106	127	110	119	95	97	96	104
		S	75	74	74	65	60	62	72	69	71	74	72	73	73
		HKW	36	39	37	35	32	33	40	44	42	36	41	39	39
		SMK	93	92	93	95	97	96	-	60	60	87	89	88	80
		O	54	49	52	49	51	50	-	52	-	50	48	49	50
		P	27	27	27	29	27	28	-	26	-	29	28	28	28
11	ISK I 2017-11 VG 13149	PS	314	312	313	199	208	204	273	271	272	330	332	331	305
		D	109	93	101	108	111	110	128	110	119	104	105	105	108
		S	64	63	63	55	51	53	66	54	60	61	63	62	62
		HKW	37	36	37	32	32	32	44	55	50	43	45	44	43
		SMK	93	83	88	95	96	95	-	72	72	92	92	92	84
		O	50	49	50	48	49	49	-	52	-	50	49	50	50
		P	26	27	26	26	27	27	-	25	-	28	27	28	27
12	ISK I 2017-12 TVG 10342	PS	315	313	314	199	208	204	286	258	272	330	330	330	305
		D	106	92	99	109	106	108	126	110	118	95	98	97	105
		S	74	76	75	69	67	68	72	66	69	73	72	73	72
		HKW	40	45	43	37	34	35	40	54	47	41	43	42	44
		SMK	98	93	96	97	98	97	-	76	76	88	90	89	87
		O	51	48	50	50	49	50	-	50	-	50	47	49	49
		P	27	27	27	29	27	28	-	26	-	30	28	29	28
13	ISK I 2017-14 K 1812	PS	321	305	313	204	212	208	318	290	304	330	332	331	316
		D	111	90	101	105	105	105	126	109	118	102	102	102	107
		S	71	69	70	65	62	63	73	65	69	60	63	62	67
		HKW	38	36	37	32	33	32	30	50	40	33	41	37	38
		SMK	90	86	88	96	96	96	-	67	67	84	87	86	80
		O	51	51	51	50	52	51	-	51	-	50	51	51	51
		P	28	26	27	29	26	27	-	26	-	26	26	26	27
14	ISK I 2017-15 PBS 12196	PS	315	308	312	206	204	205	338	301	319	330	330	330	320
		D	103	95	99	110	114	112	128	109	119	101	101	101	106
		S	70	72	71	61	57	59	67	61	64	75	72	74	69
		HKW	40	47	44	30	32	31	34	47	40	31	39	35	40
		SMK	92	92	92	91	92	91	-	71	71	85	88	87	83
		O	50	51	50	49	51	50	-	51	-	50	50	50	50
		P	26	26	26	26	27	26	-	26	-	27	27	27	26
15	ISK I 2017-16 K 1809	PS	319	308	314	211	205	208	343	236	289	332	330	331	311
		D	102	93	98	108	106	107	128	110	119	95	97	96	104
		S	68	69	69	61	63	62	68	63	66	66	68	67	67
		HKW	25	30	27	28	31	30	26	38	32	30	39	35	31
		SMK	82	85	83	92	94	93	-	65	65	86	88	87	79
		O	51	51	51	49	51	50	-	53	-	50	50	50	50
		P	28	26	27	29	27	28	-	26	-	29	27	28	27
16	ISK I 2017-18 PBS 15044	PS	319	308	314	204	205	205	322	278	300	332	332	332	315
		D	105	94	100	114	111	112	128	109	119	102	103	103	107
		S	67	70	69	56	56	56	65	63	64	70	70	70	68
		HKW	39	47	43	34	35	35	40	50	45	45	45	45	44
		SMK	95	91	93	94	98	96	-	77	77	89	91	90	87
		O	52	49	50	49	50	50	-	53	-	50	50	50	50
		P	27	27	27	27	27	27	-	25	-	30	27	28	28

S.N.	Entry	Trait	Junagadh			Amreli *			Talod			Udaipur			Pooled mean (3ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	
17	ISK I 2017-19 JL 977	PS	332	314	323	204	203	204	329	232	280	330	332	331	311
		D	105	95	100	108	109	109	128	108	118	107	105	106	108
		S	67	67	67	60	57	59	69	61	65	65	65	65	65
		HKW	30	33	32	32	30	31	30	46	38	33	42	38	36
		SMK	88	88	88	92	96	94	-	65	65	84	88	86	79
		O	52	50	51	50	52	51	-	52	-	50	49	50	50
		P	26	26	26	28	26	27	-	26	-	28	27	27	27
18	ISK I 2017-20 ICGV 15327	PS	323	306	315	202	202	202	335	271	303	328	332	330	316
		D	105	94	100	108	108	108	128	110	119	105	103	104	108
		S	65	70	67	62	57	60	67	65	66	67	67	67	67
		HKW	21	33	27	26	26	26	32	42	37	31	40	36	33
		SMK	82	86	84	87	92	89	-	76	76	92	92	92	84
		O	52	52	52	52	54	53	-	55	-	52	50	51	51
		P	26	26	26	28	26	27	-	24	-	30	27	29	27
19	ISK I 2017-22 ICGV 07220	PS	319	311	315	190	212	201	287	247	267	330	328	329	304
		D	102	94	98	103	104	104	128	109	119	107	105	106	108
		S	69	72	70	64	60	62	69	64	67	64	65	65	67
		HKW	28	35	31	30	36	33	26	40	33	34	41	38	34
		SMK	85	88	87	93	95	94	-	78	78	90	91	91	85
		O	50	51	51	50	51	50	-	51	-	50	50	50	50
		P	27	26	27	28	26	27	-	26	-	28	27	27	27
20	ISK I 2017-25 TG 37A (ZC)	PS	315	309	312	198	208	203	287	240	264	332	333	333	303
		D	103	90	97	112	109	110	127	110	119	95	98	97	104
		S	70	74	72	60	60	60	65	60	63	71	71	71	69
		HKW	36	47	42	29	35	32	26	49	38	44	44	44	41
		SMK	94	95	94	94	98	96	-	63	63	84	86	85	81
		O	51	48	49	48	50	49	-	52	-	49	48	49	49
		P	26	27	27	27	27	27	-	25	-	28	28	28	27
21	ISK I 2017-26 GG 7 (ZC)	PS	321	308	315	206	204	205	318	284	301	332	330	331	315
		D	105	92	99	112	112	112	127	110	119	97	98	98	105
		S	71	74	73	69	65	67	72	67	69	73	71	72	71
		HKW	35	50	42	39	37	38	38	58	48	42	44	43	44
		SMK	92	95	93	99	99	99	-	75	75	86	88	87	85
		O	50	47	48	48	49	48	-	50	-	47	47	47	48
		P	26	28	27	28	28	28	-	26	-	29	29	29	28
22	ISK I 2017-27 SG 99 (ZC)	PS	319	319	319	210	204	207	290	230	260	330	332	331	303
		D	109	95	102	105	104	105	127	110	119	102	102	102	108
		S	71	73	72	64	54	59	68	65	67	71	71	71	70
		HKW	42	51	46	33	32	32	30	46	38	43	45	44	43
		SMK	97	96	97	93	95	94	-	58	58	91	90	91	82
		O	51	49	50	49	50	50	-	51	-	50	50	50	50
		P	24	27	25	26	27	27	-	25	-	27	26	27	26
23	ISK I 2017-28 JL 501 (ZC)	PS	317	311	314	209	204	207	368	269	319	329	328	329	320
		D	102	91	97	108	108	108	128	110	119	97	99	98	105
		S	74	76	75	67	63	65	74	68	71	72	72	72	73
		HKW	35	39	37	26	29	28	20	42	31	35	43	39	36
		SMK	96	96	96	95	98	96	-	52	52	89	90	90	79
		O	51	48	49	48	49	49	-	50	-	49	48	49	49
		P	24	27	26	26	27	27	-	26	-	28	27	28	27
Final plant stand (000/ha)															
	G.M		317	310	314	203	207	205	306	258	282	331	330	330	309
	S.E. Diff. Mean		5.0	4.5	4.8	4.1	5.2	4.7	18.3	19.0	19.1	2.6	2.1	2.4	11.2
	CD at 5%		10.0	NS	9.5	8.2	NS	9.3	36.4	38.0	37.8	NS	NS	NS	21.9
	CV %		2.2	2.1	2.2	2.9	3.6	3.3	8.4	10.4	9.3	1.1	0.9	1.0	5.1

* The centre not included in the pooled analysis because its pod yield was below triennial national average (1436 kg/ha).

ZONE III

Table 12a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED

S. N.	Entry	Gwalior			Akola *			Jalgaon			Latur			Raigarh			Shirgaon			Pooled mean (5 Ctrs)	R
		2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		
1	ISK I 2017-1	2048	5418	3733	1344	1203	1274	1134	1463	1299	1286	1685	1486	1989	1927	1958	4069	3577	3823	2460	16
	TCGS 1622																				
2	ISK I 2017-2	2011	4221	3116	1011	977	994	617	1306	961	1628	2930	2279	2172	1852	2012	3403	3645	3524	2378	17
	VG 13159																				
3	ISK I 2017-3	2201	4969	3585	1063	1316	1190	1622	1500	1561	1149	2129	1639	2465	2971	2718	4190	3536	3863	2673	11
	JCG 4798																				
4	ISK I 2017-4	2159	4712	3436	1326	1261	1294	1088	1824	1456	745	1918	1332	1382	2177	1780	3299	3625	3462	2293	21
	UG 160																				
5	ISK I 2017-5	2274	4403	3339	1030	1493	1261	2109	2126	2118	1688	2112	1900	2266	3370	2818	4288	3273	3781	2791	9
	J 95																				
6	ISK I 2017-6	2282	3868	3075	1635	1023	1329	1122	1560	1341	2181	2674	2428	1537	1636	1586	4491	3331	3911	2468	15
	VG 13154																				
7	ISK I 2017-7	1994	4207	3101	1317	1004	1161	1114	1083	1098	1794	2975	2384	1074	1161	1117	3235	2980	3108	2162	22
	Dh 232																				
8	ISK I 2017-8	1698	4838	3268	1680	994	1337	1019	844	932	1615	2636	2126	2684	2496	2590	3773	3623	3698	2523	14
	CAU-GS1																				
9	ISK I 2017-9	2361	4999	3680	1875	1547	1711	2238	2068	2153	1480	1956	1718	794	2640	1717	4711	2773	3742	2602	12
	J 96																				
10	ISK I 2017-10	2177	5118	3647	1395	1236	1315	2198	1701	1949	2722	3812	3267	2872	2421	2646	4282	4096	4189	3140	4
	Dh 257																				
11	ISK I 2017-11	2067	4609	3338	1844	1001	1423	692	1386	1039	1907	2095	2001	1016	2677	1846	2899	3816	3358	2316	20
	VG 13149																				
12	ISK I 2017-12	2347	5032	3690	1426	1232	1329	1449	2087	1768	1430	1978	1704	1472	1256	1364	3386	3125	3255	2356	18
	TVG 10342																				
13	ISK I 2017-14	2481	5012	3747	1289	1180	1234	3104	2520	2812	3279	3678	3479	4351	2861	3606	3646	3708	3677	3464	1
	K 1812																				
14	ISK I 2017-15	2699	5163	3931	1672	1103	1388	1293	1771	1532	1266	2517	1892	2405	2931	2668	3524	3676	3600	2724	10
	PBS 12196																				
15	ISK I 2017-16	2643	3551	3097	1826	1082	1454	2475	1824	2150	2394	3240	2817	3508	2387	2947	3854	3690	3772	2957	6
	K 1809																				
16	ISK I 2017-18	2525	3829	3177	1647	1297	1472	927	1689	1308	1394	1889	1642	918	2202	1560	2003	2280	2141	1966	23
	PBS 15044																				
17	ISK I 2017-19	2483	3766	3124	2168	1333	1751	2601	2643	2622	2047	3457	2752	1913	3310	2611	3582	3473	3528	2927	7
	JL 977																				
18	ISK I 2017-20	2531	4589	3560	1814	1222	1518	2129	1890	2009	2624	4209	3416	2289	2486	2388	4039	4339	4189	3112	5
	ICGV 15327																				
19	ISK I 2017-22	2206	4109	3157	1532	1183	1358	3225	2680	2952	2878	3758	3318	3039	2685	2862	3982	4367	4174	3293	2
	ICGV 07220																				
20	ISK I 2017-24	2273	4272	3272	1360	1447	1404	1724	1784	1754	1625	1918	1771	3094	2451	2772	3507	3111	3309	2576	13
	TAG 24 (ZC)																				
21	ISK I 2017-30	2258	4974	3616	1351	1347	1349	1705	2009	1857	1582	2986	2284	3354	1796	2575	3339	4557	3948	2856	8
	AK 159 (ZC)																				
22	ISK I 2017-31	2659	3770	3214	1327	1279	1303	1488	1767	1628	924	2119	1521	2737	2045	2391	3150	2567	2858	2322	19
	GG 8 (ZC)																				
23	ISK I 2017-32	2110	4086	3098	1232	1265	1249	2986	2445	2716	2865	3554	3210	2758	2505	2632	3762	4607	4184	3168	3
	JL 776 (ZC)																				
	GM	2282	4501	3391	1485	1218	1352	1741	1825	1783	1848	2705	2277	2265	2358	2312	3670	3555	3613	2675	
	S.E. Diff. Mean	99.1	645.6	461.8	134.3	112.3	123.8	147.2	155.6	151.5	257.0	368.3	317.6	348.9	345.2	347.1	407.9	459.6	434.6	359.5	
	CD at 5%	197.8	NS	914.4	268.1	224.6	245.1	293.9	311.2	299.9	513.0	736.6	628.7	696.7	690.4	687.2	814.5	919.3	860.4	704.7	
	CV%	6.1	20.3	19.3	12.8	13.0	13.0	12.0	12.1	12.0	19.7	19.3	19.7	21.8	20.7	21.2	15.7	18.3	17.0	19.0	

* The centre not included in the pooled analysis because its pod yield was below triennial national average (1436 kg/ha).

Note: There were two missing entries namely ISK I 2017- 4 and ISK-I-2017-16 in the year (2018) at Jalgaon centre. To perform overlocations analysis, the mean pod and kernel yields of the centre was considered.

Table 12b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED

Kernel yield (kg/ha)

S. N.	Entry	Gwalior			Akola *			Jalgaon			Latur			Raigarh			Shirgaon			Pooled mean (5 Ctrs)	R
		2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		
1	ISK I 2017-1 TCGS 1622	1372	3678	2525	907	832	869	806	995	901	815	1212	1013	1387	1478	1433	3261	2443	2852	1745	14
2	ISK I 2017-2 VG 13159	1361	2705	2033	619	726	673	401	775	588	1027	2004	1516	1408	1124	1266	2236	2229	2232	1527	21
3	ISK I 2017-3 JCG 4798	1489	3342	2416	655	846	751	1077	962	1020	721	1433	1077	1695	1870	1782	2788	2557	2672	1793	12
4	ISK I 2017-4 UG 160	1481	3132	2306	893	892	893	806	1204	1005	410	1357	883	894	1511	1202	2658	2751	2705	1620	18
5	ISK I 2017-5 J 95	1518	3077	2298	672	1012	842	1377	1402	1389	1023	1496	1259	1478	2262	1870	3193	2406	2799	1923	9
6	ISK I 2017-6 VG 13154	1529	2505	2017	1001	528	764	774	1010	892	1380	1892	1636	1065	992	1028	3491	2216	2854	1685	15
7	ISK I 2017-7 Dh 232	1326	2777	2051	816	567	691	781	660	721	1159	1911	1535	724	711	717	2629	2160	2395	1484	22
8	ISK I 2017-8 CAU-GS1	1158	3136	2147	1018	528	773	671	519	595	1035	1710	1372	1739	1479	1609	2828	1929	2379	1620	17
9	ISK I 2017-9 J 96	1570	3249	2409	1144	1022	1083	1474	1313	1393	925	1331	1128	518	1901	1209	3706	2081	2893	1807	11
10	ISK I 2017-10 Dh 257	1454	3291	2372	926	828	877	1491	1167	1329	1739	2552	2146	1965	1604	1784	3375	2825	3100	2146	4
11	ISK I 2017-11 VG 13149	1371	2893	2132	1121	566	844	457	873	665	1161	1413	1287	663	1783	1223	2087	2771	2429	1547	20
12	ISK I 2017-12 TVG 10342	1538	3308	2423	978	867	923	1044	1352	1198	739	1444	1092	958	844	901	2565	2342	2453	1613	19
13	ISK I 2017-14 K 1812	1663	3323	2493	831	735	783	2241	1733	1987	2066	2504	2285	2918	1765	2342	2396	2652	2524	2326	1
14	ISK I 2017-15 PBS 12196	1808	3532	2670	1055	685	870	871	1234	1053	802	1765	1283	1576	1834	1705	2492	2763	2628	1868	10
15	ISK I 2017-16 K 1809	1763	2257	2010	1212	675	943	1668	1204	1436	1545	2235	1890	2188	1643	1915	3058	2609	2834	2017	6
16	ISK I 2017-18 PBS 15044	1685	2543	2114	1006	807	906	623	1124	874	784	1240	1012	514	1506	1010	1232	1588	1410	1284	23
17	ISK I 2017-19 JL 977	1658	2377	2017	1332	754	1043	1843	1744	1794	1294	2271	1782	1159	2137	1648	2807	2580	2694	1987	7
18	ISK I 2017-20 ICGV 15327	1690	2872	2281	1143	768	956	1468	1264	1366	1670	2730	2200	1568	1645	1606	3200	3277	3238	2138	5
19	ISK I 2017-22 ICGV 07220	1462	2703	2082	987	742	865	2270	1843	2057	1658	2542	2100	1956	1746	1851	3226	3083	3154	2249	2
20	ISK I 2017-24 TAG 24 (ZC)	1534	2837	2185	886	967	927	1141	1123	1132	1024	1207	1116	1948	1642	1795	2750	2345	2547	1755	13
21	ISK I 2017-30 AK 159 (ZC)	1507	3258	2382	882	922	902	1195	1365	1280	989	2143	1566	2096	1187	1641	2522	3401	2961	1966	8
22	ISK I 2017-31 GG 8 (ZC)	1769	2514	2141	898	906	902	1086	1285	1185	642	1612	1127	1813	1483	1648	2230	1920	2075	1635	16
23	ISK I 2017-32 JL 776 (ZC)	1398	2706	2052	791	766	779	2101	1709	1905	1774	2554	2164	1779	1627	1703	2835	3094	2964	2158	3
	GM	1526	2957	2242	947	780	863	1203	1211	1207	1147	1850	1499	1478	1555	1517	2764	2523	2643	1821	
	S.E. Diff. Mean	69.0	422.9	303.0	85.8	76.1	81.1	104.7	99.3	102.1	174.5	270.1	227.4	208.5	256.9	233.9	315.7	339.2	327.6	251.4	
	CD at 5%	137.7	NS	599.9	171.3	152.1	160.5	209.1	198.7	202.1	348.4	540.3	NS	416.3	513.8	463.2	630.2	678.3	648.7	492.7	
	CV%	6.4	20.2	19.1	12.8	13.8	13.3	12.3	11.6	12.0	21.5	20.7	21.5	19.9	23.4	21.8	16.2	19.0	13.5	19.5	

* The centre not included in the pooled analysis because its pod yield was below triennial national average (1436 kg/ha).

Note: There were two missing entries namely ISK I 2017- 4 and ISK-I-2017-16 in the year (2018) at Jalgaon centre. To perform overlocations analysis, the mean pod and kernel yields of the centre was considered.

Table 12c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED

S. N.	Entry	Trait	Ancillary traits																		Pooled mean (5 Ctrs)
			Gwallor			Akola *			Jalgaon			Latur			Raigarh			Shirgaon			
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	
1	ISK I 2017-1 TCGS 1622	PS	247	332	289	213	213	213	304	163	234	279	314	296	282	287	285	311	303	307	282
		D	111	110	110	114	119	117	108	113	111	111	126	118	132	119	125	110	119	115	116
		S	67	68	67	68	70	69	71	68	70	63	72	68	70	77	73	80	69	74	70
		HKW	33	44	38	47	38	43	34	28	31	33	41	37	41	47	44	65	38	51	40
		SMK	88	94	91	84	92	88	96	98	97	92	84	88	-	97	97	84	56	70	88
		O	51	45	48	51	51	51	53	52	53	49	50	49	48	46	47	49	48	49	49
P	26	27	27	27	26	27	26	26	26	25	26	25	26	29	26	27	29	27	28	27	
2	ISK I 2017-2 VG 13159	PS	231	336	284	194	200	197	298	190	244	266	312	289	281	294	287	315	308	312	283
		D	112	112	112	115	119	117	115	112	113	122	128	125	137	119	128	90	119	105	116
		S	68	64	66	61	74	68	65	59	62	63	68	66	65	61	63	66	61	64	64
		HKW	35	41	38	38	47	42	34	31	32	31	45	38	45	41	43	58	40	49	40
		SMK	85	90	88	78	90	84	96	97	96	93	88	91	-	91	91	81	84	82	90
		O	49	47	48	48	52	50	50	52	51	48	49	49	48	46	47	49	49	49	49
P	28	26	27	26	25	26	26	26	26	25	27	26	27	26	26	28	26	27	26		
3	ISK I 2017-3 JCG 4798	PS	246	329	287	213	213	213	310	187	248	284	305	295	280	290	285	323	314	319	287
		D	115	114	114	117	114	116	108	111	110	109	122	115	136	114	125	91	117	104	114
		S	68	68	68	62	67	64	66	64	65	63	67	65	69	63	66	67	72	69	67
		HKW	35	42	38	38	31	35	34	28	31	32	41	37	44	47	45	42	45	43	39
		SMK	85	89	87	83	91	87	96	96	96	92	87	89	-	97	97	82	75	79	90
		O	50	46	48	50	49	49	53	53	53	48	50	49	48	47	47	49	48	49	49
P	28	26	27	26	28	27	25	25	25	24	26	25	28	25	27	26	27	26	26		
4	ISK I 2017-4 UG 160	PS	253	334	294	216	216	216	313	193	253	305	315	310	279	286	283	315	318	317	291
		D	116	116	116	112	115	114	110	-	110	108	120	114	131	109	120	91	116	104	113
		S	69	67	68	67	73	70	74	-	74	54	71	62	65	69	67	81	76	78	70
		HKW	26	35	30	31	33	32	27	-	27	33	38	36	33	41	37	45	37	41	34
		SMK	85	91	88	79	93	86	92	-	92	93	86	89	-	91	91	84	79	82	88
		O	50	46	48	49	49	49	51	-	51	48	50	49	50	47	48	48	47	48	49
P	28	27	27	25	27	26	25	-	25	23	26	24	27	25	26	29	27	28	26		
5	ISK I 2017-5 J 95	PS	244	330	287	201	201	201	305	175	240	302	307	304	267	281	274	322	317	320	285
		D	111	110	110	112	114	113	114	112	113	110	118	114	126	109	118	91	117	104	112
		S	67	70	68	65	68	67	65	66	66	61	71	66	66	67	66	75	74	74	68
		HKW	35	39	37	38	31	34	30	23	26	38	37	37	42	41	41	31	42	36	36
		SMK	86	95	91	81	91	86	89	92	90	70	89	79	-	91	91	80	79	79	86
		O	48	46	47	50	50	50	50	52	51	48	49	48	47	47	47	51	47	49	48
P	25	27	26	25	27	26	26	25	26	24	27	25	28	26	27	29	27	28	26		
6	ISK I 2017-6 VG 13154	PS	263	334	299	196	202	199	311	210	261	282	281	281	271	292	281	314	302	308	286
		D	112	112	112	113	116	115	111	112	112	117	127	122	125	116	120	101	119	110	115
		S	67	65	66	61	53	57	69	65	67	63	71	67	69	61	65	78	67	72	67
		HKW	35	38	37	39	27	33	38	28	33	34	48	41	43	42	42	65	39	52	41
		SMK	85	83	84	77	91	84	95	96	96	94	90	92	-	92	92	85	58	72	87
		O	52	48	50	48	47	47	53	48	51	48	48	48	45	44	44	48	48	48	48
P	28	26	27	26	29	27	26	27	27	26	26	26	26	26	26	28	26	27	27		
7	ISK I 2017-7 Dh 232	PS	222	330	276	225	225	225	306	173	239	280	297	288	282	287	284	319	304	312	280
		D	109	109	109	117	118	118	116	112	114	122	125	124	127	119	123	91	119	105	115
		S	67	66	66	62	56	59	70	61	66	65	64	65	68	61	64	81	73	77	68
		HKW	27	36	32	22	18	20	25	17	21	34	29	31	33	31	32	47	38	43	32
		SMK	84	89	87	79	86	82	90	91	91	86	88	-	81	81	82	68	75	84	
		O	51	47	49	50	48	49	53	55	54	53	50	52	48	44	46	51	50	50	50
P	25	57	41	25	29	27	26	25	25	26	26	26	27	25	26	31	27	29	29		
8	ISK I 2017-8 CAU-GS1	PS	176	336	256	219	219	219	308	200	254	258	271	264	276	281	278	312	314	313	273
		D	109	109	109	113	119	116	117	112	115	118	126	122	128	117	122	101	119	110	115
		S	68	65	67	61	47	54	66	62	64	64	65	64	65	60	62	75	53	64	64
		HKW	30	37	33	28	23	25	30	24	27	34	41	37	38	34	36	49	38	44	35
		SMK	79	85	82	79	89	84	94	90	92	93	85	89	-	84	84	83	76	80	85
		O	51	49	50	50	47	49	53	51	52	49	51	50	50	45	47	51	52	51	50
P	26	26	26	25	28	27	26	26	26	26	25	26	27	27	27	30	26	28	27		

S. N.	Entry	Trait	Gwalior			Akola *			Jaigaon			Latur			Raigarh			Shirgaon			Pooled mean (5 Ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	
9	ISK I 2017-9 J 96	PS	252	339	295	216	216	216	304	209	256	277	306	291	280	292	286	321	317	319	289
		D	111	110	110	114	118	116	109	112	111	110	119	115	136	112	124	99	119	109	114
		S	67	65	66	61	67	64	66	64	65	63	68	66	65	72	69	79	75	77	68
		HKW	32	39	36	34	34	34	29	22	25	31	36	33	37	41	39	49	42	46	36
		SMK	86	93	89	80	90	85	92	93	93	93	88	90	-	91	91	83	78	80	89
		O	51	47	49	49	49	49	52	51	51	48	49	49	47	42	44	50	48	49	48
		P	28	27	27	25	28	26	26	26	26	23	26	24	27	25	26	28	27	27	26
10	ISK I 2017-10 Dh 257	PS	240	332	286	217	217	217	297	182	239	273	300	286	275	287	281	297	311	304	279
		D	112	112	112	115	113	114	110	111	110	119	128	124	135	112	123	90	118	104	114
		S	67	65	66	66	68	67	68	69	68	64	66	65	69	66	67	79	69	74	68
		HKW	35	34	34	34	30	32	27	23	25	33	44	39	36	34	35	52	42	47	36
		SMK	86	92	89	78	92	85	91	96	94	93	84	88	-	84	84	81	75	78	86
		O	51	47	49	52	52	52	53	55	54	52	53	52	50	48	49	50	49	49	51
		P	30	27	28	27	26	26	28	25	26	27	25	26	30	25	28	31	27	29	27
11	ISK I 2017-11 VG 13149	PS	221	336	279	211	211	211	298	201	250	260	310	285	274	281	277	313	299	306	279
		D	110	109	109	115	115	115	108	112	110	116	125	121	130	109	120	101	117	109	114
		S	67	63	65	61	59	60	66	63	65	61	68	64	65	67	66	72	71	72	66
		HKW	32	38	35	40	31	36	33	28	31	31	39	35	35	44	40	54	42	48	38
		SMK	84	82	83	79	91	85	94	97	95	95	88	92	-	94	94	82	74	78	88
		O	50	50	50	49	51	50	54	55	55	50	51	51	45	48	47	49	49	49	50
		P	27	26	26	26	26	26	28	25	26	25	25	25	25	25	25	28	26	27	26
12	ISK I 2017-12 TVG 10342	PS	237	329	283	197	209	203	303	217	260	273	314	293	277	290	284	314	305	310	286
		D	111	110	110	115	116	116	108	109	108	110	122	116	126	111	118	91	117	104	111
		S	66	66	66	69	70	69	72	65	68	52	73	62	65	67	66	76	75	75	68
		HKW	31	38	35	41	39	40	38	30	34	30	40	35	33	44	39	50	51	50	38
		SMK	83	88	85	88	94	91	96	91	93	93	86	89	-	94	94	80	79	80	88
		O	49	45	47	51	50	51	52	54	53	48	51	49	47	47	47	49	-	49	49
		P	28	28	28	28	26	27	27	25	26	25	26	25	26	26	26	30	-	30	27
13	ISK I 2017-14 K 1812	PS	265	334	300	212	212	212	308	187	247	290	277	284	261	288	275	313	291	302	281
		D	110	109	109	114	118	116	110	114	112	120	126	123	123	118	120	101	120	111	115
		S	67	67	67	65	66	65	72	69	71	63	69	66	69	61	65	66	71	69	67
		HKW	25	39	32	36	25	30	32	29	30	32	40	36	35	35	35	47	39	43	35
		SMK	84	91	87	83	92	87	95	94	95	94	86	90	-	85	85	82	69	75	86
		O	50	49	50	51	48	50	51	52	52	52	51	51	46	47	47	50	49	50	50
		P	28	26	27	28	28	28	29	25	27	28	26	27	27	25	26	30	27	28	27
14	ISK I 2017-15 PBS 12196	PS	302	330	316	274	274	274	307	191	249	293	292	292	274	281	277	317	315	316	290
		D	109	109	109	113	115	114	117	112	114	113	127	120	126	111	118	91	114	103	113
		S	67	69	68	63	64	63	68	70	69	63	70	67	65	63	64	71	75	73	68
		HKW	34	38	36	35	23	29	36	31	34	33	40	37	36	41	39	49	42	45	38
		SMK	84	92	88	87	94	90	95	96	95	93	85	89	-	91	91	85	81	83	89
		O	51	49	50	50	50	50	51	53	52	48	50	49	44	46	45	48	49	49	49
		P	27	25	26	25	27	26	24	25	24	23	26	24	23	26	25	28	27	27	25
15	ISK I 2017-16 K 1809	PS	297	339	318	228	228	228	314	193	254	312	297	305	278	290	284	323	292	308	294
		D	107	108	107	111	115	113	110	-	110	123	125	124	125	111	118	99	119	109	114
		S	67	64	65	66	63	64	67	-	67	65	69	67	63	69	66	79	71	75	68
		HKW	29	35	32	32	29	30	27	-	27	37	38	37	27	34	30	45	37	41	34
		SMK	85	89	87	87	91	89	90	-	90	94	87	90	-	84	84	75	76	76	85
		O	52	49	50	51	50	51	52	-	52	52	52	52	48	46	47	50	50	50	50
		P	29	25	27	29	27	28	28	-	28	26	25	26	28	26	27	30	27	28	27
16	ISK I 2017-18 PBS 15044	PS	272	340	306	199	205	202	304	170	237	269	301	285	279	288	284	273	304	289	280
		D	115	114	114	112	114	113	115	111	113	113	121	117	133	110	122	90	118	104	114
		S	67	66	67	61	64	63	67	67	67	56	66	61	56	69	62	62	70	66	64
		HKW	37	42	40	38	40	39	34	25	30	31	40	36	41	47	44	40	40	40	38
		SMK	87	95	91	90	91	90	90	96	93	93	86	89	-	97	97	80	80	80	90
		O	52	49	50	52	52	52	52	53	52	49	50	50	46	45	46	50	-	50	50
		P	28	26	27	25	25	25	26	25	26	25	25	25	25	26	25	29	-	29	26

S. N.	Entry	Trait	Gwalior			Akola *			Jalgaon			Latur			Raigarh			Shirgaon			Pooled mean (5 Ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	
17	ISK I 2017-19 JL 977	PS	285	334	310	246	246	246	307	205	256	295	327	311	263	281	272	326	315	321	294
		D	107	107	107	114	115	115	115	112	114	115	127	121	129	110	119	90	117	104	113
		S	67	63	65	61	56	59	71	66	68	63	66	65	61	65	63	78	74	76	67
		HKW	27	43	35	31	24	27	35	26	30	35	36	36	34	37	35	48	38	43	36
		SMK	82	88	85	77	91	84	93	93	93	91	88	89	-	87	87	82	73	77	86
		O	52	45	49	51	50	50	52	55	53	50	48	49	45	46	45	50	49	50	49
		P	27	27	27	25	27	26	26	25	25	24	27	25	24	26	25	27	26	27	26
18	ISK I 2017-20 ICGV 15327	PS	270	329	299	230	230	230	310	191	250	285	301	293	268	290	279	316	304	310	286
		D	112	111	111	115	114	115	109	112	111	118	126	122	127	112	120	91	119	105	114
		S	67	63	65	63	64	63	69	67	68	64	65	64	69	65	67	79	75	77	68
		HKW	30	35	33	27	24	25	27	21	24	34	33	33	35	39	37	51	42	46	35
		SMK	87	90	89	89	90	90	95	94	94	93	86	90	-	89	89	83	78	80	88
		O	52	52	52	53	52	53	54	58	56	53	54	54	49	45	47	48	52	50	52
		P	28	28	28	26	26	26	27	24	25	27	24	26	27	26	27	27	26	27	26
19	ISK I 2017-22 ICGV 07220	PS	255	337	296	197	205	201	319	171	245	277	297	287	263	288	276	320	319	320	285
		D	108	108	108	111	114	113	110	114	112	119	127	123	124	114	119	90	116	103	113
		S	66	66	66	64	65	65	70	69	70	58	68	63	64	65	65	81	71	76	68
		HKW	32	38	35	38	26	32	32	30	31	36	43	39	35	38	36	49	49	49	38
		SMK	88	91	89	80	90	85	95	96	96	85	87	86	-	88	88	81	75	78	87
		O	51	46	48	51	47	49	51	53	52	49	51	50	50	45	47	49	-	49	49
		P	28	26	27	29	29	29	29	25	27	25	25	25	28	26	27	30	-	30	27
20	ISK I 2017-24 TAG 24 (ZC)	PS	264	334	299	228	228	228	310	187	249	307	323	315	284	281	282	308	308	308	291
		D	111	111	111	112	116	114	109	111	110	108	117	112	129	113	121	91	116	104	111
		S	68	67	67	65	67	66	66	63	65	63	63	63	63	67	65	79	75	77	67
		HKW	38	37	37	32	29	30	27	21	24	31	33	32	32	41	36	42	43	43	34
		SMK	88	90	89	82	91	87	95	92	93	83	82	87	-	91	91	84	84	84	89
		O	51	27	39	50	50	50	52	51	52	50	50	50	51	44	48	49	50	49	48
		P	27	26	27	25	27	26	24	26	25	27	26	26	25	26	25	27	26	27	26
21	ISK I 2017-30 AK 159 (ZC)	PS	248	333	291	208	208	208	294	180	237	307	312	310	263	292	277	321	322	322	287
		D	108	108	108	109	112	111	110	108	109	110	124	117	128	112	120	100	118	109	112
		S	67	66	66	65	69	67	70	68	69	63	72	67	63	66	64	76	75	75	68
		HKW	29	38	34	32	30	31	28	22	25	34	36	35	31	42	36	42	49	45	35
		SMK	87	92	90	82	93	88	96	97	96	95	88	91	-	92	92	80	80	80	90
		O	51	48	50	53	52	53	53	55	54	52	53	53	51	51	51	50	50	50	51
		P	27	27	27	26	25	26	25	25	25	23	25	24	25	25	25	28	26	27	26
22	ISK I 2017-31 GG 8 (ZC)	PS	297	331	314	208	208	208	304	242	273	303	312	307	274	287	280	322	302	312	297
		D	110	110	110	110	114	112	109	109	109	109	115	112	126	115	120	100	120	110	112
		S	67	67	67	68	70	69	73	73	73	69	76	73	66	77	72	71	75	73	71
		HKW	27	35	31	36	32	34	31	26	29	36	38	37	33	38	35	40	43	41	35
		SMK	82	90	86	85	93	89	92	94	93	94	87	90	-	88	88	82	86	84	88
		O	49	45	47	49	48	48	50	50	50	49	50	49	48	45	46	28	47	38	46
		P	27	28	27	27	28	27	26	26	26	23	26	24	25	27	26	27	27	27	26
23	ISK I 2017-32 JL 776 (ZC)	PS	220	333	277	213	213	213	304	224	264	273	278	276	255	281	268	326	317	322	281
		D	110	110	110	113	117	115	109	113	111	119	128	124	120	116	118	91	115	103	113
		S	66	66	66	64	60	62	70	70	70	62	72	67	65	65	65	75	68	71	68
		HKW	27	37	32	34	25	29	33	29	31	31	43	37	32	37	35	48	49	49	37
		SMK	84	89	86	85	89	87	95	98	96	95	90	92	-	87	87	81	76	78	88
		O	52	47	50	51	47	49	51	53	52	52	50	51	49	45	47	49	-	49	50
		P	28	26	27	27	28	28	28	25	27	29	26	27	29	26	27	30	-	30	28
Final plant stand (000/ha)																					
G.M			253	334	293	216	217	217	306	193	250	285	302	293	273	287	280	315	309	312	286
S.E. Diff. Mean			15.5	4.1	11.3	16.9	16.8	16.8	11.4	22.0	17.5	10.6	13.1	11.9	7.3	3.2	5.7	8.5	9.4	9.0	11.7
CD at 5%			31.0	NS	22.5	33.7	33.5	33.3	NS	NS	NS	21.1	26.2	23.5	14.7	6.4	11.2	17.0	18.8	17.7	23.0
CV %			8.7	1.7	5.5	11.1	10.9	11.0	5.3	16.1	9.9	5.3	6.1	5.7	3.8	1.6	2.9	3.8	4.3	4.1	5.8

* The centre not included in the pooled analysis because its pod yield was below triennial national average (1436 kg/ha).

Note: There were two missing entries namely ISK I 2017- 4 and ISK-I-2017-16 in the year (2018) at Jalgaon centre. To perform overlocations analysis, the mean pod and kernel yields of the centre was considered.

ZONE IV

Table 13a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED
Pod yield (kg/ha)

S.N.	Entry	Bhubaneswar			Imphal			Mohanpur			Kanke *	Pooled mean (3 Ctrs)	R
		2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017		
1	ISK I 2017-1 TCGS 1622	1939	2026	1982	3447	3635	3541	2202	2212	2207	1898	2577	21
2	ISK I 2017-2 VG 13159	1771	2489	2130	4597	4088	4342	2422	2471	2447	1389	2973	12
3	ISK I 2017-3 JCG 4798	1742	2141	1942	3502	3384	3443	2581	2479	2530	897	2638	20
4	ISK I 2017-4 UG 160	1725	2084	1904	2642	2455	2549	2919	2627	2773	1111	2409	22
5	ISK I 2017-5 J 95	2020	2518	2269	3152	3555	3353	3165	2834	3000	1377	2874	15
6	ISK I 2017-6 VG 13154	2107	2662	2384	4465	5090	4778	2633	2617	2625	1591	3262	6
7	ISK I 2017-7 Dh 232	2217	1678	1947	3545	3830	3688	2393	2313	2353	1377	2663	19
8	ISK I 2017-8 CAU-GS1	1701	2344	2023	4454	4892	4673	2709	2689	2699	2055	3131	8
9	ISK I 2017-9 J 96	2240	2257	2248	3385	3345	3365	3417	3284	3351	1522	2988	10
10	ISK I 2017-10 Dh 257	2535	2199	2367	3157	3839	3498	4199	3707	3953	1186	3273	5
11	ISK I 2017-11 VG 13149	2483	2373	2428	4344	4818	4581	3539	3662	3600	1290	3536	1
12	ISK I 2017-12 TVG 10342	1823	1765	1794	3025	3250	3138	3846	3666	3756	1100	2896	14
13	ISK I 2017-14 K 1812	2911	2286	2599	4219	4440	4329	3657	3591	3624	1377	3517	2
14	ISK I 2017-15 PBS 12196	2465	1794	2130	4124	4370	4247	3591	3298	3445	1215	3274	4
15	ISK I 2017-16 K 1809	2627	2055	2341	3603	3148	3376	3568	3516	3542	1609	3086	9
16	ISK I 2017-18 PBS 15044	1765	1997	1881	2865	2630	2748	3941	3895	3918	1129	2849	16
17	ISK I 2017-19 JL 977	1881	2315	2098	3903	4145	4024	1948	2437	2192	1777	2771	17
18	ISK I 2017-20 ICGV 15327	2402	1910	2156	4405	4540	4472	2040	2243	2141	1146	2923	13
19	ISK I 2017-22 ICGV 07220	2587	2228	2408	3638	3950	3794	3145	3289	3217	1678	3140	7
20	ISK I 2017-33 OG 52-1 (ZC)	2442	2112	2277	2780	3553	3166	2729	2859	2794	1487	2746	18
21	ISK I 2017-34 Girnar 3 (ZC)	2564	1881	2222	3237	4014	3625	3117	3080	3098	1539	2982	11
22	ISK I 2017-35 GPBD 5 (ZC)	2749	1823	2286	1374	2215	1794	2833	2671	2752	1389	2277	23
23	ISK I 2017-36 R 2001-2 (ZC) GM	2865	2431	2648	4167	4538	4352	2940	2917	2928	1215	3310	3
	S.E. Diff. Mean	88.4	121.2	106.1	360.3	282.8	323.9	190.5	194.4	192.4	203.7	225.9	
	CD at 5%	176.5	242.4	210.0	719.3	565.7	NS	380.3	388.8	NS	406.6	442.9	
	CV%	5.6	8.0	6.8	14.3	10.5	12.4	8.9	9.3	9.1	20.5	10.8	

* Not included in the pooled analysis as trial conducted only for one year

Table 13b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED

Kernel yield (kg/ha)

S.N.	Entry	Bhubaneswar			Imphal			Mohanpur			Kanke *	Pooled mean (3 Ctrs)	R
		2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017		
1	ISK I 2017-1 TCGS 1622	1308	1351	1329	2536	2687	2612	1542	1562	1552	1350	1831	20
2	ISK I 2017-2 VG 13159	1095	1544	1320	3264	2835	3050	1702	1752	1727	972	2032	12
3	ISK I 2017-3 JCG 4798	1109	1324	1217	2521	2420	2470	1835	1761	1798	606	1828	21
4	ISK I 2017-4 UG 160	1206	1460	1333	1880	1772	1826	2078	1872	1975	790	1711	22
5	ISK I 2017-5 J 95	1262	1550	1406	2148	2412	2280	2203	1982	2092	998	1926	16
6	ISK I 2017-6 VG 13154	1343	1649	1496	3198	3643	3420	1842	1839	1840	1046	2252	6
7	ISK I 2017-7 Dh 232	1318	1058	1188	2599	2829	2714	1692	1636	1664	869	1855	19
8	ISK I 2017-8 CAU-GS1	1032	1446	1239	3140	3446	3293	1907	1894	1900	1412	2144	8
9	ISK I 2017-9 J 96	1356	1373	1365	2301	2314	2308	2400	2323	2362	961	2011	14
10	ISK I 2017-10 Dh 257	1736	1543	1639	2274	2821	2547	2997	2650	2823	859	2337	3
11	ISK I 2017-11 VG 13149	1475	1443	1459	3015	3485	3250	2476	2576	2526	896	2412	2
12	ISK I 2017-12 TVG 10342	1276	1212	1244	2219	2429	2324	2764	2659	2712	719	2093	10
13	ISK I 2017-14 K 1812	1930	1455	1692	3008	3187	3098	2525	2504	2515	981	2435	1
14	ISK I 2017-15 PBS 12196	1608	1068	1338	3043	3221	3132	2621	2380	2500	869	2323	4
15	ISK I 2017-16 K 1809	1720	1305	1513	2536	2217	2376	2526	2517	2521	1109	2137	9
16	ISK I 2017-18 PBS 15044	1077	1240	1158	1919	1768	1843	2658	2667	2662	799	1888	17
17	ISK I 2017-19 JL 977	1175	1472	1324	2606	2858	2732	1389	1745	1567	1252	1874	18
18	ISK I 2017-20 ICGV 15327	1555	1208	1382	3127	3279	3203	1371	1535	1453	723	2013	13
19	ISK I 2017-22 ICGV 07220	1762	1443	1603	2682	2891	2787	2239	2351	2295	1139	2228	7
20	ISK I 2017-33 OG 52-1 (ZC)	1629	1421	1525	2021	2645	2333	1973	2064	2018	1039	1959	15
21	ISK I 2017-34 Girnar 3 (ZC)	1611	1165	1388	2384	2999	2691	2162	2129	2145	1078	2075	11
22	ISK I 2017-35 GPBD 5 (ZC)	1682	1125	1403	984	1621	1303	1880	1812	1846	978	1517	23
23	ISK I 2017-36 R 2001-2 (ZC)	1754	1571	1663	2890	3276	3083	2066	2065	2066	835	2270	5
	GM	1436	1366	1401	2534	2742	2638	2124	2099	2111	969	2050	
	S.E. Diff. Mean	70.6	95.5	84.0	264.6	208.6	238.2	136.0	132.4	134.2	138.1	165.1	
	CD at 5%	141.0	191.0	166.3	528.2	417.1	NS	271.5	264.9	NS	275.7	323.6	
	CV%	7.0	9.9	8.5	14.8	10.8	12.8	9.1	8.9	9.0	20.2	11.4	

* Not included in the pooled analysis as trial conducted only for one year

Table 13c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED
Ancillary traits

S.N.	Entry	Trait	Bhubaneswar			Imphal			Mohanpur			Kanke *	Pooled mean (3 Ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		
1	ISK I 2017-1 TCGS 1622	PS	301	299	300	271	293	282	260	269	264	222	282
		D	105	111	108	116	118	117	108	106	107	108	111
		S	68	67	68	74	74	74	70	71	70	72	71
		HKW	36	35	36	43	46	45	40	41	41	51	40
		SMK	83	81	82	70	73	72	85	86	86	93	80
		O	48	47	48	51	47	49	51	-	51	-	49
	P	27	27	27	24	26	25	29	-	29	-	27	
2	ISK I 2017-2 VG 13159	PS	295	311	303	277	274	276	242	257	250	152	276
		D	109	113	111	124	123	124	111	111	111	113	115
		S	62	62	62	71	69	70	70	71	71	70	68
		HKW	37	36	37	50	54	52	41	42	41	61	43
		SMK	78	80	79	63	66	64	88	88	88	91	77
		O	48	46	47	51	48	49	52	-	52	-	49
	P	25	29	27	24	26	25	25	-	25	-	26	
3	ISK I 2017-3 JCG 4798	PS	298	294	296	285	301	293	252	262	257	148	282
		D	108	115	112	112	118	115	104	107	105	110	111
		S	64	62	63	72	71	72	71	71	71	68	69
		HKW	41	34	38	40	42	41	40	40	40	41	40
		SMK	79	80	80	67	68	68	85	85	85	89	77
		O	48	47	47	50	45	48	51	-	51	-	49
	P	26	28	27	23	28	25	28	-	28	-	27	
4	ISK I 2017-4 UG 160	PS	300	310	305	287	273	280	258	253	255	255	280
		D	105	115	110	112	118	115	105	108	106	117	110
		S	70	70	70	71	72	72	71	71	71	71	71
		HKW	31	30	31	38	37	38	41	42	42	39	37
		SMK	85	84	85	66	70	68	88	88	88	80	80
		O	49	47	48	55	46	51	52	-	52	-	50
	P	26	28	27	24	29	26	26	-	26	-	26	
5	ISK I 2017-5 J 95	PS	294	299	297	287	299	293	245	260	253	188	281
		D	104	115	110	112	118	115	103	104	103	116	109
		S	63	62	63	68	68	68	70	70	70	73	67
		HKW	34	31	33	30	31	30	41	42	41	56	35
		SMK	78	80	79	57	62	60	88	87	87	91	75
		O	50	47	48	49	45	47	52	-	52	-	49
	P	25	28	26	22	28	25	25	-	25	-	25	
6	ISK I 2017-6 VG 13154	PS	291	298	294	309	280	294	236	240	238	204	275
		D	107	112	110	124	126	125	110	109	110	116	115
		S	64	62	63	72	72	72	70	70	70	66	68
		HKW	38	34	36	54	57	55	43	41	42	63	44
		SMK	79	81	80	68	70	69	87	88	87	78	79
		O	48	46	47	50	48	49	50	-	50	-	49
	P	25	28	27	24	26	25	24	-	24	-	25	
7	ISK I 2017-7 Dh 232	PS	295	292	293	280	279	280	231	229	230	161	268
		D	109	113	111	119	120	120	111	112	111	119	114
		S	60	63	62	73	74	74	71	71	71	63	69
		HKW	29	29	29	39	37	38	42	43	43	41	37
		SMK	76	80	78	69	73	71	87	87	87	86	79
		O	51	46	49	51	51	51	54	-	54	-	51
	P	26	28	27	23	26	25	24	-	24	-	25	
8	ISK I 2017-8 CAU-GS1	PS	303	301	302	276	286	281	216	243	230	131	271
		D	104	112	108	124	125	125	111	114	112	123	115
		S	61	62	62	71	70	71	70	71	70	69	67
		HKW	34	30	32	43	46	45	44	44	44	65	40
		SMK	75	80	78	65	69	67	85	86	86	81	77
		O	52	48	50	53	51	52	55	-	55	-	52
	P	25	27	26	25	26	25	24	-	24	-	25	

S.N.	Entry	Trait	Bhubaneswar			Imphal			Mohampur			Kanke *	Pooled mean (3 Ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		
9	ISK I 2017-9 J 96	PS	282	308	295	290	300	295	264	265	264	154	285
		D	106	112	109	117	119	118	106	107	107	109	111
		S	61	61	61	68	69	69	70	71	71	63	67
		HKW	32	31	32	31	34	33	41	42	41	52	35
		SMK	75	80	78	58	67	62	87	87	87	89	76
		O	49	46	47	51	46	49	53	-	53	-	50
		P	25	28	27	22	27	24	26	-	26	-	26
10	ISK I 2017-10 Dh 257	PS	286	290	288	275	290	283	253	267	260	142	277
		D	107	114	111	118	122	120	108	107	107	112	113
		S	69	70	70	72	73	73	71	71	71	73	71
		HKW	33	32	33	35	38	37	44	45	45	38	38
		SMK	84	83	84	61	73	67	90	89	89	87	80
		O	53	48	51	52	50	51	53	-	53	-	52
		P	28	27	28	26	26	26	29	-	29	-	28
11	ISK I 2017-11 VG 13149	PS	284	304	294	273	286	280	254	260	257	169	277
		D	104	114	109	125	126	126	111	110	110	121	115
		S	60	61	61	70	72	71	70	70	70	70	67
		HKW	41	37	39	51	53	52	42	43	43	46	45
		SMK	83	84	84	63	65	64	87	87	87	91	78
		O	50	48	49	51	48	50	54	-	54	-	51
		P	26	28	27	25	26	26	26	-	26	-	26
12	ISK I 2017-12 TVG 10342	PS	278	299	289	277	300	289	268	264	266	172	281
		D	106	112	109	112	119	116	104	106	105	120	110
		S	70	69	70	73	75	74	72	73	72	65	72
		HKW	42	36	39	47	47	47	45	45	45	48	44
		SMK	85	85	85	72	74	73	87	88	88	77	82
		O	50	48	49	50	49	49	51	-	51	-	50
		P	26	28	27	27	27	27	29	-	29	-	28
13	ISK I 2017-14 K 1812	PS	276	299	288	292	278	285	245	260	253	158	275
		D	105	111	108	121	123	122	110	112	111	117	114
		S	66	64	65	71	72	72	69	70	69	72	69
		HKW	34	34	34	39	41	40	42	44	43	53	39
		SMK	82	82	82	64	69	67	84	85	85	95	78
		O	51	48	50	51	48	49	52	-	52	-	50
		P	28	27	27	28	26	27	29	-	29	-	28
14	ISK I 2017-15 PBS 12196	PS	291	300	295	312	276	294	278	271	275	193	288
		D	106	113	110	119	122	121	111	112	111	108	114
		S	65	60	63	74	74	74	73	72	73	73	70
		HKW	26	28	27	54	51	53	41	41	41	49	40
		SMK	81	81	81	71	71	71	89	88	88	86	80
		O	50	47	48	51	50	50	53	-	53	-	51
		P	25	27	26	23	26	25	23	-	23	-	25
15	ISK I 2017-16 K 1809	PS	283	303	293	298	287	293	265	269	267	230	284
		D	106	112	109	119	122	121	111	113	112	119	114
		S	66	63	65	70	70	70	71	72	71	69	69
		HKW	27	30	29	38	35	37	42	43	43	41	36
		SMK	81	80	81	63	69	66	88	87	88	90	78
		O	52	48	50	52	47	50	52	-	52	-	50
		P	27	27	27	26	26	26	29	-	29	-	27
16	ISK I 2017-18 PBS 15044	PS	280	296	288	281	269	275	230	260	245	166	269
		D	105	113	109	114	118	116	108	109	109	119	111
		S	61	62	62	67	67	67	67	69	68	71	65
		HKW	40	37	39	45	45	45	40	40	40	61	41
		SMK	77	80	79	60	66	63	87	88	88	75	76
		O	52	48	50	51	47	49	53	-	53	-	51
		P	26	27	27	24	27	25	26	-	26	-	26

S.N.	Entry	Trait	Bhubaneswar			Imphal			Mohanpur			Kanke *	Pooled mean (3 Ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		
17	ISK I 2017-19 JL 977	PS	293	306	299	317	271	294	262	245	253	228	282
		D	103	112	108	121	125	123	108	107	107	107	113
		S	63	64	64	67	69	68	71	72	72	70	68
		HKW	32	35	34	34	38	36	38	40	39	51	36
		SMK	79	80	80	61	69	65	88	88	88	87	77
		O	52	47	50	52	46	49	51	-	51	-	50
		P	26	28	27	23	26	25	27	-	27	-	26
18	ISK I 2017-20 ICGV 15327	PS	276	297	287	296	280	288	223	252	238	264	271
		D	102	113	108	118	123	121	110	111	110	114	113
		S	65	63	64	71	72	72	67	68	68	63	68
		HKW	29	30	30	30	34	32	42	41	41	54	34
		SMK	80	81	81	64	71	67	85	86	86	77	78
		O	54	47	51	56	51	53	55	-	55	-	53
		P	27	28	27	25	27	26	28	-	28	-	27
19	ISK I 2017-22 ICGV 07220	PS	289	298	293	300	293	297	250	256	253	191	281
		D	103	111	107	122	125	124	105	107	106	118	112
		S	68	65	67	74	73	74	71	71	71	68	70
		HKW	38	35	37	39	42	40	42	42	42	41	40
		SMK	83	83	83	65	72	68	86	86	86	96	79
		O	51	47	49	52	50	51	52	-	52	-	51
		P	27	27	27	27	27	27	28	-	28	-	27
20	ISK I 2017-33 OG 52-1 (ZC)	PS	292	303	297	275	278	277	229	245	237	175	270
		D	108	115	112	113	118	116	107	109	108	110	112
		S	67	67	67	73	74	74	72	72	72	70	71
		HKW	33	33	33	40	43	42	39	41	40	55	38
		SMK	82	81	82	71	75	73	89	89	89	87	81
		O	51	47	49	50	47	48	52	-	52	-	50
		P	24	27	26	27	27	27	27	-	27	-	27
21	ISK I 2017-34 Girnar 3 (ZC)	PS	285	301	293	303	290	297	291	256	273	204	288
		D	109	113	111	117	120	119	107	109	108	103	113
		S	63	62	63	74	75	75	70	69	69	70	69
		HKW	26	27	27	37	40	39	41	41	41	47	35
		SMK	77	80	79	57	67	62	87	87	87	93	76
		O	48	46	47	49	45	47	52	-	52	-	49
		P	25	28	27	23	27	25	23	-	23	-	25
22	ISK I 2017-35 GPBD 5 (ZC)	PS	280	296	288	277	272	275	236	247	242	216	268
		D	105	112	109	119	122	121	110	111	110	112	113
		S	61	62	62	72	73	73	66	68	67	71	67
		HKW	29	30	30	31	36	34	42	42	42	54	35
		SMK	76	80	78	60	68	64	89	88	88	95	77
		O	51	47	49	55	51	53	54	-	54	-	52
		P	25	28	27	23	27	25	26	-	26	-	26
23	ISK I 2017-36 R 2001-2 (ZC)	PS	292	312	302	293	310	302	274	257	266	249	290
		D	106	114	110	122	123	123	105	105	105	107	113
		S	61	65	63	70	72	71	70	71	70	69	68
		HKW	27	28	28	33	36	35	50	48	49	46	37
		SMK	77	80	79	65	66	66	88	87	87	80	77
		O	47	46	47	51	48	50	53	-	53	-	50
		P	24	28	26	22	27	24	23	-	23	-	24
Final plant stand (000/ha)													
	G.M	289	301	295	288	286	287	251	256	253	190	278	
	S.E. Diff. Mean	13.7	8.2	11.3	8.1	7.6	7.8	15.9	10.6	13.5	38.3	11.1	
	CD at 5%	NS	NS	NS	16.1	15.1	15.5	31.6	21.2	NS	76.4	21.8	
	CV %	6.7	3.8	5.4	4.0	3.7	3.9	8.9	5.8	7.5	28.5	5.6	

* Not included in the pooled analysis as trial conducted only for one year

Table 14a: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED Pod yield (kg/ha)

S. N.	Entry	Dharwad			Raichur			Hiriyur			Vriddhachalam			Tindivanam			Kadiri			Tirupati			Jagtial*		Pooled mean (7Ctrs)	R
		2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018		
1	ISK I 2017-1	2358	3038	2698	2764	1348	2056	1616	2263	1939	1827	1958	1892	2957	952	1955	2628	2381	2505	2691	1679	2185	1754	1438	2176	20
	TCGS 1622	2343	2600	2471	2080	1759	1919	2229	2117	2173	1957	2545	2251	2673	2943	2808	3206	3357	3282	2258	2590	2424	2928	1805	2475	13
3	ISK I 2017-3	1953	2282	2117	2160	1261	1711	1510	1779	1645	2285	2335	2310	2494	2099	2296	2436	2089	2263	2669	2503	2586	1418	1603	2133	21
	JCG 4798	1855	1905	1880	1899	1372	1636	1704	1569	1637	2229	1939	2084	2491	2358	2425	1563	1887	1725	1409	1200	1305	2315	1359	1813	23
	UG 160	2264	2778	2521	2257	1979	2118	1592	2618	2105	1750	1773	1761	3169	2912	3040	2213	1927	2070	2036	2132	2084	2245	1287	2243	16
	J 95	2809	3509	3159	2674	1482	2078	2928	1867	2397	2237	2764	2501	3540	2336	2938	3663	2957	3310	2767	2748	2757	2593	1846	2734	9
	VG I 2017-6	2769	3530	3149	3170	1262	2216	2696	2189	2443	1540	1416	1478	2854	1491	2172	3195	1672	2434	2953	2295	2624	1881	2174	2359	15
	Dh 232	2331	3373	2852	3104	1389	2247	2483	2116	2300	1896	1935	1916	2456	2788	2622	3712	2813	3263	3006	2600	2803	2749	1921	2572	11
	CAU-GS1	2308	2838	2573	2695	1794	2244	1599	2281	1940	1882	1462	1672	2739	1879	2309	1982	1733	1858	1933	1092	1513	2361	1436	2015	22
	J 96	3572	4459	4015	3080	2130	2605	2429	2015	2222	2593	2151	2372	3143	2258	2701	3843	2662	3253	3797	2744	3270	3096	1631	2920	6
	Dh 257	2296	2775	2536	3434	1406	2420	1686	1845	1766	2044	3040	2542	2915	3121	3018	3487	2946	3217	2971	3113	3042	2998	1820	2649	10
	VG I 2017-11	2387	2822	2604	2514	1187	1851	1233	2424	1829	2158	2695	2426	2396	2373	2384	2463	2095	2279	2246	2156	2201	1638	1693	2225	17
	TVG 10342	3059	4091	3575	4423	1649	3036	4298	3231	3764	2942	2619	2781	3590	2672	3131	3828	4007	3918	3778	3202	3490	5486	1810	3385	1
	K 1812	2028	3634	2831	3802	1470	2636	1896	2486	2191	2534	1971	2253	3477	2223	2850	3318	2292	2805	2276	2145	2211	1603	1542	2639	12
	ISK I 2017-15	2661	3069	2865	3427	2054	2741	2219	2644	2431	2176	2265	2220	4184	2582	3383	3394	3652	3523	3581	2513	3047	4676	2141	2887	7
	PBS 12196	1992	2558	2275	2201	1742	1972	2259	1964	2111	1830	1781	1806	3791	2433	3112	2506	2341	2424	1938	1618	1778	1927	1343	2211	18
	ISK I 2017-16	3257	3745	3501	4365	1742	3053	2949	2673	2811	2375	2022	2198	3008	3225	3117	3672	2535	3104	3089	2763	2926	2743	1911	2958	5
	ISK I 2017-17	2841	4357	3499	4170	2448	3309	2137	3033	2585	2296	3015	2655	3809	2186	2998	4231	2738	3485	3841	3311	3576	3924	807	3158	2
	ICGV 15327	2719	3636	3177	4094	2489	3291	3106	3034	3070	2948	2521	2795	3072	2612	2842	3860	3053	3457	3745	3185	3465	3368	1873	3148	3
	ISK I 2017-22	2789	4198	3494	4399	2622	3511	2647	3264	2956	2431	2298	2365	3632	2691	3161	3429	3657	3543	2825	2351	2588	2419	1509	3088	4
	ISK I 2017-36	2564	3988	3276	3114	1730	2422	1945	1868	1906	1148	1314	1231	2375	1095	1735	2995	2199	2597	2844	1465	2154	1927	1416	2189	19
	R 2001-2 (ZC)	3348	3733	3541	3653	2055	2854	2701	2831	2766	2429	2072	2250	2840	2768	2804	3539	3258	3399	2287	2835	2561	3189	1663	2882	8
	ISK I 2017-37	2436	2674	2555	3507	2019	2763	2435	2723	2579	1948	1804	1876	2523	2029	2276	3212	2127	2670	2662	2229	2446	2367	1454	2452	14
	R 2001-3 (ZC)	2554	3287	2920	3173	1756	2465	2274	2384	2329	2150	2161	2155	3049	2349	2699	3147	2625	2886	2765	2368	2567	2678	1630	2574	
	GM	291.1	341.2	317.6	361.8	160.1	279.7	337.5	363.1	350.0	201.4	125.6	167.7	182.1	133.2	159.6	205.9	103.7	163.3	333.5	397.8	366.8	233.1	91.6	271.5	
	S.E. Diff. Mean	581.1	682.4	628.9	722.3	320.2	553.8	673.8	726.3	693.0	402.0	251.1	332.1	363.7	266.4	315.9	411.7	207.4	323.4	665.9	795.6	726.3	465.5	183.2	532.2	
	C.D at 5%	16.1	14.7	15.4	16.1	12.9	16.1	21.0	21.5	21.3	13.2	8.2	11.0	8.4	8.0	8.4	9.3	5.6	8.0	17.1	23.7	20.2	12.3	8.0	14.9	
	CV%	16.1	14.7	15.4	16.1	12.9	16.1	21.0	21.5	21.3	13.2	8.2	11.0	8.4	8.0	8.4	9.3	5.6	8.0	17.1	23.7	20.2	12.3	8.0	14.9	

* Not included in the pooled analysis as trial conducted only for one year

Table 14b: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED Kernel yield (kg/ha)

S. N.	Entry	Dharwad		Raichur		Hiriyur		Vriddhachalam		Tindivanam		Kadiri		Tirupati		Jagtial*		Palem*		Pooled mean (7Ctrs)	R			
		2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018					
1	ISK I 2017-1	1751	2301	2063	900	1482	1052	1287	1215	1343	1279	2134	676	1405	1983	1709	1846	1916	1063	1490	1187	994	1545	17
2	TCGS 1622	1462	1652	1557	1539	1154	1346	1438	1264	1563	1414	1704	1811	1758	2239	1922	2081	1412	1401	1406	1751	975	1551	16
3	ISK I 2017-2	1421	1686	1553	1603	824	1213	1025	1100	1529	1549	1767	1401	1584	1813	1427	1620	1752	1566	1659	959	1185	1467	20
4	JCG 4798	1417	1453	1435	1408	988	1198	1078	1078	1317	1468	1753	1614	1683	1220	1394	1307	992	788	890	1685	803	1294	23
5	UG 160	1679	2013	1846	1679	1388	1534	998	1268	1140	1121	2329	2011	2170	1605	1296	1451	1351	1355	1353	1465	810	1535	18
6	ISK I 2017-5	1898	2378	2138	1855	991	1423	1930	1434	1512	1811	1662	1490	1953	2617	1828	2223	1777	1656	1717	1600	1107	1793	9
7	J 95	2099	2740	2420	2320	901	1611	1747	1537	966	865	916	2071	1505	2467	1031	1749	1986	1399	1692	1200	1131	1633	13
8	ISK I 2017-6	1462	2161	1811	2168	961	1565	1487	1222	1167	1225	1196	1748	1782	2642	1639	2141	1838	1469	1653	1556	1171	1624	14
9	ISK I 2017-7	1700	2027	1863	2004	1284	1644	1022	1385	1204	1145	1065	1219	1621	1440	1145	1293	1352	639	996	1577	861	1383	22
10	ISK I 2017-8	2565	3272	2918	2244	1486	1865	1647	1353	1500	1772	1558	1665	2320	1612	1966	2921	1814	2368	2589	2205	1078	2073	4
11	Dh 257	1460	1837	1648	2429	1000	1715	1031	1009	1020	1419	1905	1662	2149	1857	1767	2093	1946	1865	1905	1743	947	1721	11
12	ISK I 2017-9	1809	2137	1973	1850	753	1301	893	1663	1278	1442	1672	1778	1620	1699	1448	1657	1580	1416	1498	1068	1213	1583	15
13	TVG 10342	2219	2876	2547	3231	1147	2189	2971	2047	2509	1963	1651	2611	1855	2233	2806	2828	2622	1998	2310	3448	1175	2346	1
14	ISK I 2017-10	1439	2669	2054	2745	1060	1902	1167	1542	1355	1707	1331	1519	1512	2001	1581	2014	1566	1292	1429	1039	957	1753	10
15	PBS 12196	1928	2039	1983	2536	1459	1997	1492	1750	1621	1450	1511	1480	3038	1686	2362	2495	2402	1534	1968	2861	1178	1987	6
16	K 1809	1385	1775	1580	1529	1242	1385	1306	1103	1204	1147	1128	1137	2552	1514	2033	1694	1504	1599	1097	1271	822	1434	21
17	PBS 15044	2240	2455	2348	2723	1142	1933	1859	1446	1652	1604	1285	1444	2050	2021	2035	2492	1534	1673	1861	1647	1147	1898	8
18	JL 977	1816	2929	2372	2706	1621	2163	1473	1733	1603	1540	2007	1774	2582	1485	2034	3083	2040	2287	2501	549	2090	3	
19	ICGV 15327	2000	2450	2225	2775	1719	2247	2186	1956	2071	2023	1649	1836	2168	1876	2022	2828	1994	2323	2200	1256	2170	2	
20	ISK I 2017-22	1981	2996	2488	2983	1703	2343	1681	1996	1838	1659	1514	1586	2530	1810	2170	2454	2460	1403	1621	1555	890	2072	5
21	R 2001-2 (ZC)	1937	2990	2463	2194	1158	1676	1353	1180	1266	712	848	780	1544	795	1169	2292	1304	1798	1085	793	1503	19	
22	GPBD 4 (ZC)	2455	2657	2556	2568	1469	2019	1827	1673	1750	1621	1498	1560	2018	1824	1921	2648	2109	1686	2067	1163	1973	7	
23	R 2001-3 (ZC)	1737	1951	1844	2595	1445	2020	1727	1666	1696	1260	1186	1223	1813	1186	1500	2373	1340	1857	1602	1588	960	1677	12
24	ISK I 2017-39	1820	2324	2072	2250	1208	1729	1495	1443	1469	1428	1425	1426	2159	1546	1852	2299	1712	2006	1651	1707	1007	1744	
25	VRI Gn. 6 (ZC)	219.2	239.5	229.5	294.8	77.0	223.1	234.8	239.1	237.0	138.2	85.3	114.8	129.7	90.7	111.9	153.4	214.6	267.9	242.7	160.6	58.4	192.1	
26	S.E. Diff. Mean	437.7	479.1	454.5	588.6	154.0	441.7	468.8	478.2	469.3	275.9	170.7	227.4	259.0	181.3	221.6	306.9	171.7	246.1	428.5	320.7	116.8	376.6	
27	CD at 5%	17.0	14.6	15.6	18.5	12.8	18.2	22.2	23.4	22.8	13.7	8.5	11.4	8.5	8.3	8.5	9.4	7.1	8.8	20.8	13.3	8.2	15.6	
28	CV%	17.0	14.6	15.6	18.5	12.8	18.2	22.2	23.4	22.8	13.7	8.5	11.4	8.5	8.3	8.5	9.4	7.1	8.8	20.8	13.3	8.2	15.6	

* Not included in the pooled analysis as trial conducted only for one year

Table 14c: INITIAL VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED

S.N.	Entry	Trait	Ancillary traits												Pooled mean (7Ctrs)												
			Dharwad		Raichur		Hiriyur		Vriddhachalam		Tindivanam		Kadiri		Tirupati		Jagtial *	Palem *									
			2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018									
1	ISK I 2017-1 TCGS 1622	S	174	147	161	332	255	293	109	252	181	194	249	221	287	288	274	322	226	211	197	204	310	312	232		
			110	110	110	105	108	114	122	118	122	118	95	100	98	107	118	108	117	98	107	122	115	103	118	110	
			74	76	75	74	67	70	66	67	66	66	66	69	68	72	71	72	75	72	75	71	63	67	68	69	70
			48	49	49	52	31	41	42	56	49	40	53	46	53	46	66	51	58	51	58	39	35	37	41	62	46
			97	96	97	96	81	88	85	86	85	78	90	84	90	84	99	93	96	96	96	85	82	84	96	85	90
			49	51	50	49	50	50	-	54	-	50	49	49	49	49	48	49	48	-	-	48	48	48	50	51	49
2	ISK I 2017-2 VG 13159	P	27	27	27	29	26	28	-	26	-	26	26	26	30	25	-	-	-	28	26	27	27	26	27	27	
			160	165	162	330	272	301	113	252	182	171	247	209	202	267	297	282	214	214	240	261	251	264	319	236	
			115	115	115	110	110	110	123	123	123	102	102	102	102	105	123	114	118	118	107	122	115	108	119	114	
			62	64	63	74	66	70	64	55	59	65	61	63	64	62	63	63	64	70	57	64	54	59	60	54	63
			44	45	44	42	36	39	50	45	48	41	55	48	41	62	37	49	57	30	44	45	35	40	34	62	45
			95	93	94	92	90	91	87	83	85	71	89	80	80	95	94	95	92	96	92	85	87	86	90	85	89
3	ISK I 2017-3 JCG 4798	O	49	51	50	47	48	47	-	50	-	49	49	49	50	51	51	-	-	-	49	48	48	49	49	49	
			26	27	26	27	28	27	-	25	-	25	26	26	26	28	24	26	-	-	25	26	26	24	28	26	
			172	137	155	340	271	306	83	255	169	252	269	260	260	283	288	285	233	233	220	237	229	285	307	239	
			110	110	110	103	102	102	117	119	118	98	98	98	98	105	118	112	98	98	106	107	122	115	99	111	109
			73	74	73	74	65	70	68	66	67	67	66	67	67	71	67	69	75	68	72	67	63	65	68	74	69
			40	47	44	50	36	43	46	52	49	42	52	47	58	50	54	54	47	29	38	46	41	44	40	61	45
4	ISK I 2017-4 UG 160	O	97	94	96	95	88	92	88	84	86	77	87	82	82	98	90	94	94	94	90	83	87	93	90	89	
			50	47	49	49	49	49	-	51	-	49	50	50	50	48	48	48	-	-	-	48	47	47	50	48	
			26	28	27	28	27	28	-	25	-	25	25	25	25	29	25	27	-	-	-	28	27	27	25	28	27
			181	126	153	341	289	315	142	214	178	384	247	315	315	328	296	312	241	241	280	229	155	192	310	249	
			105	108	107	102	105	103	115	121	118	98	102	100	100	105	118	112	94	94	102	107	122	115	99	119	108
			77	76	77	74	72	73	63	68	65	73	68	70	70	68	69	69	78	74	76	70	65	68	72	59	71
5	ISK I 2017-5 J 95	S	33	36	34	35	31	33	37	39	38	36	39	37	53	42	47	34	30	32	31	35	33	28	55	36	
			95	95	95	97	82	89	83	78	81	69	89	79	97	97	97	97	91	95	93	88	85	87	87	85	89
			49	47	48	48	48	48	-	50	-	50	49	49	49	48	48	48	-	-	-	49	47	48	49	47	48
			25	29	27	28	27	28	-	26	-	25	26	26	26	29	25	27	-	-	-	27	26	26	26	29	27
			181	157	169	339	302	321	138	264	201	269	275	272	272	314	325	319	244	244	284	224	231	228	289	310	256
			105	108	107	101	102	101	118	118	118	97	100	99	99	107	118	113	98	98	122	110	107	122	115	100	112
		P	74	73	73	74	70	72	63	59	61	63	64	64	74	69	71	72	67	70	67	64	66	65	63	68	
			38	38	38	41	29	35	36	45	40	35	42	38	55	45	50	38	25	32	39	36	38	33	50	39	
			96	95	96	97	83	90	83	80	82	68	88	78	93	96	94	92	92	92	92	90	88	89	88	80	89
			50	47	48	48	48	48	-	52	-	49	49	49	49	48	49	49	-	-	-	49	48	48	49	48	48
			26	29	27	27	28	27	-	25	-	26	26	26	26	28	24	26	-	-	-	27	26	27	26	28	27

S.N.	Entry	Trait	Dharwad			Raichur			Hiriyur			Vriddhachalam			Tindivanam			Kadiri			Tirupati			Jagtlial *		Palem *	Pooled mean (7Ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018		
			189	156	173	336	283	310	166	250	208	248	252	268	306	287	245	322	284	249	263	256	263	263	303		
6	ISK I 2017-6 VG 13154	PS	110	110	110	109	111	110	118	123	102	105	104	113	117	120	119	107	122	115	109	109	109	118	113		
		D	67	68	68	70	67	69	66	50	58	68	65	67	66	71	62	67	64	60	62	62	62	60	65		
		HKW	42	50	46	45	37	41	54	42	48	40	47	41	44	63	31	42	45	35	40	34	34	56	45		
		SMK	97	92	94	94	91	93	87	78	82	72	91	81	99	97	98	94	88	85	87	94	94	70	90		
		O	48	47	47	48	47	48	-	49	-	50	48	49	49	49	-	-	50	47	48	49	49	46	48		
		P	25	28	27	27	28	27	-	26	-	26	26	26	24	28	-	-	27	26	27	25	25	29	27		
7	ISK I 2017-7 Dh 232	PS	205	158	181	337	270	304	163	227	340	280	310	306	251	311	281	278	304	291	290	290	307	267			
		D	107	107	107	98	101	100	112	123	117	97	102	112	112	109	115	112	107	122	115	109	119	109			
		S	75	78	77	73	72	72	65	61	63	63	61	62	63	77	61	69	67	61	64	64	52	68			
		HKW	29	31	30	35	29	32	33	34	34	28	35	32	33	39	18	29	25	31	28	21	38	31			
		SMK	92	92	92	95	78	87	83	72	78	54	76	65	89	90	88	92	89	85	87	79	80	84			
		O	53	50	52	52	48	50	-	51	-	53	49	51	50	51	-	-	53	50	52	52	48	51			
8	ISK I 2017-8 CAU-GS1	PS	170	159	165	337	284	310	108	235	208	185	196	224	238	321	280	217	267	242	253	253	307	227			
		D	115	115	115	111	111	111	129	118	123	105	110	113	111	117	114	114	107	122	115	110	112	114			
		S	63	64	63	69	70	69	60	45	52	61	63	62	63	71	56	64	62	56	59	57	61	63			
		HKW	35	38	37	41	31	36	47	38	43	34	44	39	44	47	26	37	37	30	34	34	45	38			
		SMK	90	82	86	95	83	89	81	76	79	66	81	73	99	94	82	88	87	74	81	92	70	85			
		O	52	48	50	51	50	50	-	53	-	54	52	53	50	51	-	-	53	51	52	53	50	51			
9	ISK I 2017-9 J 96	PS	186	139	163	337	280	309	114	249	299	227	263	310	237	277	257	217	141	179	297	297	310	237			
		D	108	110	109	98	101	100	113	127	120	98	102	100	113	106	118	112	107	122	115	106	119	110			
		S	74	71	73	74	72	73	65	61	63	61	67	64	65	73	66	70	69	58	64	67	60	68			
		HKW	38	41	40	44	32	38	41	43	42	34	50	42	42	39	27	33	37	33	35	33	58	40			
		SMK	95	93	94	96	80	88	85	80	82	74	83	79	86	90	92	91	92	93	75	84	90	87			
		O	50	49	49	50	48	49	-	50	-	50	49	50	51	-	-	-	49	47	48	50	48	49			
10	ISK I 2017-10 Dh 257	PS	192	142	167	334	282	308	139	227	324	256	290	276	226	268	247	237	276	257	269	269	303	247			
		D	108	110	109	98	105	102	114	125	119	102	105	104	113	108	117	113	107	122	115	109	118	110			
		S	72	73	73	73	70	71	68	66	67	69	72	71	73	76	68	72	68	68	68	71	66	71			
		HKW	41	40	41	39	30	34	40	43	42	35	43	39	46	39	28	34	41	29	35	32	54	39			
		SMK	98	96	97	96	81	89	79	82	81	74	90	82	88	90	94	92	89	85	87	94	70	88			
		O	52	52	52	50	52	51	-	53	-	52	53	52	49	48	-	-	52	50	51	53	-	51			
		P	28	26	27	30	26	28	-	24	-	27	25	28	-	-	-	30	26	28	29	29	-	27			

S.N.	Entry	Trait	Dharwad			Raichur			Hiriyur			Vriddhachalam			Tindivanam			Kadiri			Tirupati			Jagtlal Palem *		Pooled mean (7Ctrs)			
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018				
			Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean				
11	ISK I 2017-11 VG 13149	PS	166	146	156	332	275	303	61	245	153	174	269	221	228	326	277	114	222	318	270	235	254	245	284	303	232		
		D	108	112	110	110	111	110	120	122	121	98	102	100	107	107	121	114	122	117	120	120	107	122	115	110	118		
		S	64	66	65	71	71	71	62	55	58	69	63	66	66	74	60	67	60	69	60	65	66	59	63	58	52	65	
		HKW	42	45	44	43	30	36	46	48	47	38	57	47	47	61	38	50	51	32	42	42	45	33	39	35	53	44	
		SMK	96	97	96	91	84	87	86	84	85	74	91	82	82	99	95	97	92	91	92	91	92	89	79	84	91	70	89
		O	50	48	49	49	47	48	-	56	-	52	51	51	51	51	48	50	-	-	-	-	51	50	50	50	48	50	
P	25	28	27	27	28	27	-	24	-	-	25	25	25	29	25	27	-	-	-	-	-	27	25	26	26	28	26		
12	ISK I 2017-12 TVG 10342	PS	173	116	145	333	277	305	84	263	174	269	292	281	291	276	284	284	231	304	268	225	197	211	259	312	238		
		D	110	105	108	100	103	102	116	117	117	98	102	100	107	119	113	113	98	117	108	107	122	115	105	113	109		
		S	76	76	76	74	64	69	72	68	70	67	71	69	69	74	68	71	71	76	69	73	70	65	68	65	72	71	
		HKW	41	48	45	48	32	40	47	48	47	39	52	45	45	57	43	50	50	42	31	37	38	38	38	35	61	43	
		SMK	96	99	97	95	88	92	87	85	86	76	88	82	82	98	96	97	97	95	96	96	83	79	81	97	85	90	
		O	50	48	49	49	46	48	-	50	-	-	51	48	50	48	50	49	-	-	-	-	49	48	49	51	50	49	
P	27	28	28	29	28	29	-	26	-	-	26	26	26	29	24	27	-	-	-	-	-	27	26	27	27	27			
13	ISK I 2017-14 K 1812	PS	220	155	187	340	281	311	191	277	234	326	263	295	314	259	287	287	239	290	265	273	271	272	291	303	264		
		D	106	108	107	112	112	112	115	118	117	105	110	108	106	124	115	115	101	120	111	107	122	115	113	119	112		
		S	73	70	71	73	70	71	69	64	66	67	63	65	65	73	69	71	74	70	72	69	63	66	63	65	69		
		HKW	38	39	39	44	34	39	46	44	45	36	41	38	41	46	35	40	40	44	29	37	35	30	33	29	43	39	
		SMK	94	93	93	94	87	91	87	80	84	75	75	75	75	98	96	97	97	95	91	93	86	84	85	85	82	88	
		O	51	49	50	50	48	49	-	55	-	-	52	50	51	49	50	50	-	-	-	-	51	50	50	51	49	50	
P	29	27	28	30	27	29	-	24	-	-	28	26	27	29	24	27	-	-	-	-	-	29	26	27	28	27			
14	ISK I 2017-15 PBS 12196	PS	181	137	159	339	277	308	146	244	195	354	249	301	326	259	293	293	239	303	271	295	228	262	288	310	256		
		D	110	110	110	106	110	108	119	124	121	98	104	101	108	108	119	114	106	118	112	107	122	115	110	120	111		
		S	71	73	72	72	72	72	60	62	61	67	68	67	67	72	68	70	74	69	72	69	60	65	65	62	68		
		HKW	47	49	48	43	37	40	48	49	48	45	46	45	45	55	37	46	46	47	33	40	36	35	36	37	40	43	
		SMK	92	96	94	92	96	94	84	84	84	84	81	85	83	94	96	95	95	91	95	93	90	82	86	95	80	90	
		O	50	48	49	50	50	50	-	54	-	-	51	49	50	50	52	51	-	-	-	-	48	50	49	51	50	50	
P	24	28	26	25	26	25	-	23	-	-	24	25	25	27	24	26	-	-	-	-	24	25	25	24	27	25			
15	ISK I 2017-16 K 1809	PS	172	160	166	337	289	313	146	259	203	243	231	237	328	263	295	295	234	281	258	276	184	230	302	304	243		
		D	112	113	113	112	113	113	124	118	121	96	100	98	100	105	119	112	108	118	113	107	122	115	109	118	112		
		S	72	67	69	74	71	72	67	66	66	67	67	67	67	73	65	69	73	68	71	67	61	64	61	55	68		
		HKW	33	32	33	36	32	34	40	44	42	33	41	37	41	40	30	35	37	24	31	32	29	31	30	34	34		
		SMK	93	89	91	94	88	91	87	80	84	71	78	74	74	94	91	93	92	89	91	88	81	85	81	70	87		
		O	52	48	50	50	51	50	-	53	-	-	51	48	50	51	53	52	-	-	-	-	52	50	51	52	50		
P	28	28	28	29	26	27	-	24	-	-	28	26	27	30	24	27	-	-	-	-	30	25	27	28	26	27			

S.N.	Entry	Trait	Dharwad			Raichur			Hiriyur			Vriddhachalam			Tindivanam			Kadiri			Tirupati			Jagtial *	Palem *	Pooled mean (7Ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean			
			190	133	162	342	274	308	113	218	166	271	163	217	321	267	294	241	299	270	248	239	244			
16	ISK I 2017-18	PS	115	112	114	103	104	104	117	118	118	96	105	101	108	119	114	108	119	114	107	122	115	106	113	111
	PBS 15044	D	69	69	69	69	71	70	58	56	57	63	63	63	67	62	65	68	64	66	64	59	62	66	61	64
		S	44	41	42	35	39	39	47	51	49	41	45	43	50	45	47	44	35	40	35	35	35	39	44	42
		HKW	97	92	94	95	82	89	82	85	84	80	86	83	91	90	91	91	95	93	86	85	86	95	70	88
		SMK	50	47	49	50	51	50	-	51	-	52	51	51	49	50	50	-	-	-	49	49	49	51	48	50
		O	26	28	27	26	26	26	-	25	-	27	25	26	28	24	26	-	-	-	26	25	26	25	27	26
		P																								
17	ISK I 2017-19	PS	187	168	178	337	296	316	159	242	201	296	302	299	318	241	280	241	311	276	291	283	287	297	297	262
	JL 977	D	115	111	113	103	104	103	119	124	121	97	100	99	105	118	112	110	119	115	107	122	115	109	112	111
		S	69	65	67	62	66	64	63	54	58	67	64	65	68	63	65	68	61	65	66	60	63	60	60	64
		HKW	37	35	36	40	32	36	40	36	38	35	40	37	45	31	38	38	25	32	30	32	31	27	45	35
		SMK	94	87	91	93	83	88	79	78	78	65	70	68	84	85	85	88	89	89	83	74	79	86	75	82
		O	51	47	49	50	50	50	-	52	-	51	51	51	51	56	53	-	-	-	51	49	50	52	48	51
		P	25	28	27	28	26	27	-	25	-	26	26	26	28	23	25	-	-	-	27	26	26	26	28	26
18	ISK I 2017-20	PS	199	149	174	337	286	312	178	279	229	331	290	310	306	259	283	227	305	266	281	246	264	279	315	262
	ICGV 15327	D	108	110	109	99	101	100	119	120	119	98	101	100	107	118	113	111	118	115	107	122	115	111	119	110
		S	69	67	68	65	67	66	69	57	63	67	67	67	68	68	68	73	62	68	66	61	64	64	68	66
		HKW	28	30	29	33	35	34	37	38	37	33	38	35	38	34	36	36	21	29	36	28	32	23	32	33
		SMK	92	91	92	93	92	92	87	79	83	70	85	78	98	98	98	91	87	89	90	81	86	90	65	88
		O	53	50	51	51	51	51	-	57	-	55	56	56	52	49	50	-	-	-	54	53	53	53	50	52
		P	26	27	26	27	24	26	-	23	-	25	24	24	28	25	27	-	-	-	29	25	27	27	27	26
19	ISK I 2017-22	PS	187	150	168	341	284	312	168	262	215	285	256	271	277	274	276	233	295	264	267	269	268	299	308	254
	ICGV 07220	D	110	112	111	101	105	103	120	126	123	102	108	105	107	119	113	111	118	115	107	122	115	113	119	112
		S	73	67	70	68	69	69	70	65	67	69	65	67	71	72	71	73	69	71	71	62	67	66	67	69
		HKW	36	37	36	40	37	38	52	41	47	35	39	37	42	42	42	43	29	36	37	33	35	30	51	39
		SMK	93	93	93	94	90	92	82	80	81	76	84	80	96	98	97	94	92	93	80	80	80	91	85	88
		O	51	49	50	50	50	50	-	52	-	52	49	51	50	46	48	-	-	-	51	48	50	50	49	50
		P	28	27	27	29	26	28	-	25	-	28	26	27	27	26	27	-	-	-	29	26	27	27	27	27
20	ISK I 2017-36	PS	186	158	172	340	282	311	185	263	224	312	264	288	329	283	306	233	320	277	231	226	229	293	319	258
	R 2001-2 (ZC)	D	110	107	109	102	105	104	117	116	117	97	100	99	107	118	113	108	117	113	107	122	115	111	112	110
		S	71	71	71	68	65	66	64	61	62	68	66	67	70	67	68	72	67	70	66	60	63	65	59	67
		HKW	30	34	32	35	31	33	33	38	35	33	44	38	37	34	35	35	22	29	31	25	28	21	47	33
		SMK	95	88	91	95	93	94	81	78	80	65	71	68	91	90	90	89	88	89	90	78	84	85	80	85
		O	49	47	48	49	48	49	-	50	-	50	48	49	48	52	50	-	-	-	50	51	50	49	50	49
		P	24	28	26	25	27	26	-	26	-	24	26	25	25	24	25	-	-	-	25	25	25	26	27	25

S.N.	Entry	Trait	Dharwad			Raichur			Hiriyur			Vriddhachalam			Tindivanam			Kadiri			Tirupati			Jagtiel *	Palem *	Pooled mean (7Ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean			
			177	154	166	334	282	308	163	192	192	377	255	316	328	280	304	238	307	273	273	273	216			
21	ISK I 2017-37	PS	110	108	109	112	113	112	115	121	118	107	118	113	109	118	114	114	107	122	115	113	111	111	111	
	GPBD 4 (ZC)	D	76	75	75	70	67	69	70	63	66	62	65	63	65	73	69	68	66	59	63	57	56	68	68	
		S	28	32	30	35	30	33	37	35	36	32	35	32	33	30	31	35	17	26	30	26	28	25	31	
		HKW	84	92	88	93	82	87	83	75	79	62	71	67	76	98	87	92	88	85	78	82	87	86	83	
		SMK	53	51	52	51	50	50	-	53	-	52	50	51	52	50	51	-	-	53	47	50	52	51	51	
		O	27	27	27	28	27	27	-	25	-	25	26	26	25	24	25	-	-	28	26	27	26	27	26	
		P																								
22	ISK I 2017-38	PS	205	146	176	341	281	311	135	248	192	343	224	283	327	263	295	244	304	274	272	246	259	303	310	256
	R 2001-3 (ZC)	D	110	110	110	111	111	111	114	123	119	98	103	101	107	118	113	111	119	115	107	122	115	109	118	112
		S	73	71	72	70	72	71	67	60	63	67	72	70	71	66	68	75	64	70	69	60	65	65	70	68
		HKW	32	34	33	38	31	34	40	38	39	31	39	35	42	26	34	36	23	30	30	26	28	24	39	33
		SMK	94	93	93	95	84	89	85	79	82	69	77	73	95	77	86	90	89	90	93	78	86	90	75	85
		O	50	47	49	50	46	48	-	50	-	49	49	49	49	51	50	-	-	-	49	48	49	48	49	
		P	23	28	26	25	29	27	-	26	-	25	26	26	27	24	25	-	-	-	26	26	26	25	28	
23	ISK I 2017-39	PS	185	162	173	339	282	311	139	258	198	317	254	286	227	282	255	225	318	272	254	248	251	300	310	249
	VRI Gn. 6 (ZC)	D	106	108	107	102	105	103	115	123	119	105	105	105	107	120	114	111	117	114	107	122	115	111	119	111
		S	71	73	72	74	72	73	71	61	66	65	66	65	72	59	65	74	63	69	69	62	66	68	66	68
		HKW	28	32	30	35	34	35	38	37	37	32	40	36	39	31	35	31	19	25	29	26	28	27	35	32
		SMK	92	91	92	94	89	91	87	85	86	65	83	74	93	98	95	90	88	89	89	82	86	90	75	87
		O	51	48	50	50	48	49	-	55	-	52	51	51	50	52	51	-	-	-	51	48	49	52	50	
		P	25	28	26	28	27	28	-	24	-	26	26	26	29	25	27	-	-	-	27	26	27	26	27	
	Final plant stand (000/ha)																									
	G.M		184	149	166	337	281	309	137	248	192	286	252	269	291	284	288	235	306	270	250	236	243	288	308	248
	S.E. Diff. Mean		15.1	12.0	13.7	2.9	11.0	8.1	19.5	17.4	18.5	26.3	22.5	24.5	8.5	5.6	7.2	8.6	6.7	7.7	23.9	27.1	25.6	20.5	9.9	16.7
	CD at 5%		NS	24.1	27.1	5.7	NS	16.0	39.0	34.9	36.7	52.5	45.0	48.4	17.0	14.3	17.3	13.5	15.3	47.8	54.2	50.7	NS	19.9	32.8	
	CV %		11.6	11.5	11.6	1.2	5.6	3.7	20.2	10.0	13.6	13.0	12.6	12.9	4.1	2.8	3.6	5.2	3.1	4.1	13.6	16.2	14.9	10.0	6.6	9.5

* Not included in the pooled analysis as trial conducted only for one year

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

There were 12 test genotypes in this trial. The trial was allotted to 23 centres located across four zones (excluding zone III where Virginia genotypes are not grown). All the 23 centres have conducted the trial for over two years and reported the data except Bawal, Jagtial, Palem and Kanke which had reported only data of either kharif 2017 or 2018. The zone and centre-wise results are presented below (**Tables 15a through 18c**). Whenever, either the coefficient of variation exceeded 25% in a particular location over two years, or the mean yield of the location fell below 1436 kg/ha (triennial national average of *kharif season*, 2016 to 2018), 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 Girnar-2 (ZC), GG 21 (ZC), HNG 69, HNG 123 (ZC), Utkarsh (ZC), CSMG 2003-19, Raj Mungfali-1, (ZC) and Raj Mungfali-3 (ZC). The Coefficient of variation (CV %) was about 9% both for pod and kernel yield and the CV% was well within the limits in three locations. At Bikaner centre, the CV% was very high (26.3%) over two years and the plant stand was very marginal (1,36,000 in first year;85000 in second year per ha) at Bikaner. The Bawal centre did not report the data of second year trial. Hence, the data of Bikaner and Bawal centres could not be included in the pooled analysis. The centre-wise results are presented below (**Tables 15a through 15c**).

Mainpuri

In this location, the mean pod and kernel yield of the genotypes over two years were high (2061 kg/ha and 1444 kg/ha respectively). Over the two test years the zonal check, Utkarsh was the best check of this centre for pod (2959 kg/ha) and kernel (2119 kg/ha) and surpassed all the other checks and test genotypes.

Durgapura

The mean pod (3464 kg/ha) and kernel (2423 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 (4750 kg/ha) and kernel yield (3244 kg/ha). Among the test genotypes, RG 622-2 had numerically higher pod (4807 kg/ha) and kernel yield (3487 kg/ha) but the yields were not significantly superior over those of the best check, Rajmungfali-1 (ZC).

Bikaner

The mean pod (3316 kg/ha) and kernel (1946 kg/ha) yield over two years were high in this centre. During both (23.8%, 29.6%, respectively) the years, the CV% was high and the plant stands were very marginal (1,36,000 in first year;85000 in second year per ha) at this centre. Hence, the data of this centre could not be included in the pooled analysis. Among the zonal check varieties, Rajmungfali-1 (ZC) was the best for pod (4416 kg/ha) and kernel (2527 kg/ha) yield and surpassed all the test genotypes. Among the test genotypes, JSP 64 was the best for pod (3857 kg/ha) whereas NRCGCS 590 (2274 kg/ha) was found the best for kernel yield.

Ludhiana

The mean pod (1875 kg/ha) and kernel (1289 kg/ha) yield over two years were moderate at this centre. Over two years, CSMG 2003-19 (ZC) was the best for pod (3234 kg/ha) and kernel yield (2143 kg/ha) and out-yielded the other test genotypes and checks. Among the test genotypes, K1811 was the best for pod (2755 kg/ha) and kernel (1949 kg/ha) yield.

Bawal

Bawal centre did not report the data of second year trial. The mean pod (2134 kg/ha) and kernel (1384 kg/ha) yield during *khariif* 2017 were high at this centre. During the first year of testing, Rajmungfali-1 (ZC) was the best for pod (2948 kg/ha) and kernel (2102 kg/ha) yield and out-yielded the other test genotypes and checks. Among the test genotypes, K1811 was the best for pod (3274 kg/ha) and kernel (2192 kg/ha) yield.

Zonal Mean Performances

The mean pod (2466 kg/ha) and kernel (1718 kg/ha) yield over two years were high in this zone. Across the three eligible locations for pooled analysis over two years, the zonal check, CSMG 2003-19 was the best for pod (3420 kg/ha) and kernel yield (2366 kg/ha) and out-yielded the other test genotypes and checks. Among the test genotypes, RG 622-2 was the best for pod (3029 kg/ha) and kernel yield (2145 kg/ha).

Ancillary Observation

In all the test centres, the plant stand was very low. The genotypes matured around 119-122 days. Shelling outturn ranged from 68% (HNG 123 ZC) to 71% in most test genotypes. The 100-seed weight was low (39/100 kernel) in JSSP 60 and high (58 g/100 kernel) in UTKARSH followed by CSMG 2003-19 (57 g/100 kernel). Oil content of all the genotypes ranged from 49% to 51%. Protein content of all the genotypes was around 25-27%.

Conclusion

Across the three locations and over two years none of the test genotypes significantly surpassed the yield levels of the best check, CSMG 2003-19 (ZC) and hence none deserves promotion to AVT.

Zone II

The trial was conducted by four centres, Junagadh, Amreli, and Talod centre in Gujarat and Pratapgarh in southern Rajasthan. The check varieties used were GG 20 (ZC), Somnath (ZC) GG 22, KDG 128 (ZC) and KDG 123 (ZC). The Coefficient of variation (CV %) was about 13% both for pod and kernel yield and the CV% was well within the limits in three locations. At Amreli, the mean yield of the location fell below 1436 kg/ha (triennial national average of *khariif* season, 2016 to 2018) and hence the data could not be included in the pooled analysis. The centre-wise results are presented below (**Tables 16a through 16c**).

Junagadh

In this location, the mean pod (2180 kg/ha) and kernel yield (1534 kg/ha) of the genotypes over two years were high. Over the two test years among checks, KDG 123 (ZC) was the best check of this centre with a very high pod (2701 kg/ha) and kernel (1925 kg/ha) yield respectively and out-yielded all the other checks and test genotypes. Among the test genotypes, K 1811 was found the best for pod (2644 kg/ha) and kernel (1787 kg/ha) yield.

Amreli

In this location, the mean pod and kernel yield of the genotypes over two years was below 1436 kg/ha (triennial national average of *kharif season*, 2016 to 2018) and hence the data could not be included in the pooled analysis. The zonal check variety, KDG 128 was the best for pod (1610 kg/ha) and kernel (1039 kg/ha) yield over two years and out-yielded all the other checks and test genotypes. Among the test genotypes, K 1811 was found the best for pod (1558 kg/ha) and kernel yield (1022 kg/ha).

Talod

In this location, the mean pod (2815 kg/ha) and kernel yield (1826 kg/ha) of the genotypes over two years were high. Over the two test years among checks, KDG 123 (ZC) was the best check of this centre with a very high pod (3227 kg/ha) whereas for kernel yield, KDG 128 (ZC) was the best (2120 kg/ha). Among the test genotypes, JSP 64 was found the best for pod (3215 kg/ha) whereas for kernel yield, JSSP 59 was the best (2128 kg/ha) and remained at par with those of the best checks.

Pratapgarh

In this location, the mean pod (1605 kg/ha) and kernel yield (1018 kg/ha) of the genotypes over two years were moderate. Over the two test years among checks, KDG 128 (ZC) was the best check of this centre with a very high pod (1754 kg/ha) yield, whereas for kernel yield, Somnath (ZC) was the best (1077 kg/ha). Among the test genotypes, JSSP 60 was found the best for pod (2644 kg/ha) but at par with the checks; whereas for kernel yield, K 1847 was the best (1286 kg/ha) and significantly exceeded those of the best check, Somnath.

Zonal Mean Performances

The mean pod (2200 kg/ha) and kernel yields (1459 kg/ha) of the genotypes in this zone over two years were high. Across three locations and over two years, KDG 128 (ZC) was the best for pod (2518 kg/ha) and surpassed all the other check varieties and test genotypes. Whereas for kernel yield, although the zonal check varieties KDG 128 was the best (1647 kg/ha) the test genotypes, JSSP 59 exceeded (1680 kg/ha) the kernel yield of the best KDG 128.

Ancillary Observation

The plant stand was very low in all the three test locations. The genotypes matured around 114-116 days. The shelling out turn was low (62%) in JSSP 60 and high (69%) in JSP 65, K 1847, and JSSP 59. The 100-seed weight was low (39 g) in KDG 128 and high (56 g) in NRCGCS 591. Oil content was in the range of 48% (K 1847) to 53% (JSP 65, JSSP 59, Somnath ZC). Protein content was about 25% (RG 622-2) to 28% in KDG 128.

Conclusion

Across the three locations and over two years none of the test genotypes significantly surpassed the yield levels of the best check, KDG 128 (ZC) and hence none deserves promotion to AVT.

Zone IV

There were four centres, Bhubaneswar Mohanpur Imphal and Kanke in this zone. Kanke centre has been phased as on 1 April 2018. Hence this centre did not conduct the second year trial and accordingly the data of this centre was not used for pooled analysis over locations. The check varieties used were BAU 13 (ZC), GJG 18 (ZC), KDG 123, GJG 18 and Rajmungfali-2 (ZC). The Coefficient of variation (CV%) was within limits in this zone for

both for pod (14%) and kernel yield. The centre-wise results are presented below (Tables 17a through 17c).

Bhubaneswar

The average yields of entries and checks in this centre were 1666 kg of pod and 1042 kg of kernel per ha. Among the checks, GJG 18 (ZC) was the best (1960 kg of pod and 1171 kg of kernel per ha). Among the test genotypes, K 1847 exhibited numerical superiority for pod (2039 kg/ha) yield whereas for kernel (1420 kg/ha) yield, it exhibited significance level over the best check, GJG 18 (ZC).

Mohanpur

In this location, the mean pod and kernel yields of the genotypes over two years were moderate (2332 kg/ha and 1636 kg/ha respectively). Over two years, there were no significant differences 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, KDG 123 was the best for pod (3712 kg/ha) and kernel (2633 kg/ha) yield. Among the test genotypes, K 1811 was the best for pod (3519 kg/ha) and kernel (2498 kg/ha) yield.

Imphal

In this location, the mean pod and kernel yields of the genotypes over two years were high (3578 kg/ha and 2607 kg/ha respectively). Over two years, there were no significant differences between the test genotypes and check varieties for pod yield. Among the check varieties, Raj Mungfalli 2 was the best for pod (3892 kg/ha) and kernel (2919 kg/ha) yield and surpassed the other checks and test genotypes for both pod and kernel yields. Among the test genotypes, RG 622-2 was the best for pod (3805 kg/ha) and kernel yield (2831 kg/ha).

Kanke

This centre has been phased as on 1 April 2018. Hence it did not conduct the second year trial and accordingly the data of this centre was not used for pooled analysis over locations. In this location, the mean pod and kernel yields of the genotypes during kharif 2017 were low (1554 kg/ha and 1051 kg/ha respectively). The zonal check variety, GJG 19 was the best for pod (2010 kg/ha) whereas for kernel, GJG 18 was the best (1411 kg/ha) yield over two years. And surpassed all the other checks and test genotypes for both pod and kernel yields. Among the test genotypes, JSSP 60 was the best for pod (1982 kg/ha) and kernel yield (1344 kg/ha).

Zonal Mean Performances

In this zone, the mean pod and kernel yields of the genotypes over two years were high (2525 kg/ha and 1762 kg/ha respectively). Across the three locations and over two years, the zonal check variety, KDG 123 was the best for pod (3005 kg/ha) and kernel (2126 kg/ha) yield followed by Raj Mungfalli-2 (2968 kg/ha of pod; 2112 kg/ha of kernel). None of the test genotypes recorded significant higher pod and kernel yields over the best check. Among the test genotypes, K 1811 was the best for pod (2954 kg/ha) and kernel (2079 kg/ha) yield.

Ancillary Observation

The plant stand was very low at all the test locations. The test genotypes and checks matured between 114d (K 1847) to 118d (JSSP 60). Shelling outturn was low (62%; NRCGCS 589) and high (72%; K 1847). The range for oil content observed was 48% (K 1847) to 54% (NRCGCS 592). In general the oil content in almost many genotypes in first year was high. Protein content ranged from 23% (JSP 65) to 28% (K 1811).

Conclusion

Across the three locations and over two years, none of the test genotypes significantly surpassed the yield levels of the best check, KDG 123 (ZC) and hence none deserves promotion to AVT.

Zone V

There were ten centres, Dharwad, Raichur, Hiriyur (Karnataka); Vriddhachalam, Tindivanam (Tamil Nadu); Kadiri, Tirupati (Andhra Pradesh); Digraj (southern Maharashtra) and Jagtial and Palem (Telengana) in this zone. The Jagtial centre has been phased as on 1 April 2018. Hence this centre did not conduct the second year trial and accordingly the data of this centre was not used for pooled analysis over locations. The Palem centre conducted the second year trial of Jagtial centre and hence due to change of locations the data of this centre could also not be used for pooled analysis. At two centres, Hiriyur (26.8%) and Tirupati (31.7%) the CV% over two years were very high and hence data of these two centres were also not used for pooled analysis. The zonal check varieties used were GG 16, KDG 123 and KDG 128. The Coefficient of variation over five locations and years were 13% for pod and kernel yields. The centre-wise results are presented below (**Tables 18a through 18c**).

Dharwad

In this location, the mean pod and kernel yields of the genotypes over two years were very high (3309 kg/ha and 2428 kg/ha respectively). Over two years, the zonal check variety, KDG 123 was the best with a very high pod (4038 kg/ha) and kernel yield (2978 kg/ha). None of the test genotypes could significantly surpass the pod and kernel yield of this best check. Among the test genotypes, K 1811 was the best for pod (4130 kg/ha) and kernel (3045 kg/ha) yield.

Raichur

In this location, the mean pod and kernel yields of the genotypes over two years were high (2270 kg/ha and 1541 kg/ha respectively). Over two years, the zonal check variety, KDG 123 was the best for pod (2911 kg/ha) and kernel yield (2004 kg/ha). None of the test genotypes could significantly surpass the pod and kernel yield of this best check. Among the test genotypes, K 1811 was the best (3167 kg/ha) for pod and kernel yield (2137 kg/ha).

Hiriyur

In this centre over two years the pod (1768 kg/ha) and kernel yield (1207 kg/ha) were moderate. The CV%, over two years were very high (26.8%) and hence data of this centre was not used for pooled analysis. The zonal check variety, KDG 123 was the best for pod (2639 kg/ha) and kernel yield (1855 kg/ha) and surpassed the yield levels of the other checks and test genotypes. Among the test genotypes, K 1811 was the best for pod (2270 kg/ha) and kernel yield (1586 kg/ha).

Vriddhachalam

In this centre over two years the pod (2213 kg/ha) and kernel yield (1495 kg/ha) were high to the region. The zonal check variety, KDG 123 was the best for pod (2729 kg/ha) and kernel yield (1844 kg/ha) and surpassed the yield levels of the other checks and test genotypes. Among the test genotypes, K 1811 was the best for pod (2697 kg/ha) and kernel yield (1840 kg/ha).

Tindivanam

In this location, the mean pod and kernel yields of the genotypes over two years were high (2115 kg/ha and 1447 kg/ha respectively). The zonal check variety, KDG 128 was the best for pod (2845 kg/ha) and kernel yield (2073 kg/ha) and surpassed the yield levels of the other checks and test genotypes. Among the test genotypes, JSP 64 was the best for pod (2607 kg/ha) whereas K 1811 was the best for kernel yield (1852 kg/ha).

Kadiri

In this location, the mean pod and kernel yields of the genotypes over two years were high (2286 kg/ha and 1627 kg/ha respectively). The zonal check variety, KDG 123 was the best for pod (2904 kg/ha) and kernel yield (2117 kg/ha) and surpassed the yield levels of the other checks and test genotypes. Among the test genotypes, JSP 64 was the best for pod (2676 kg/ha) whereas K 1811 was the best for kernel yield (1892 kg/ha).

Tirupati

In this location, the mean pod (1605 kg/ha) and kernel (1078 kg/ha) yields of the genotypes over two years were moderate. At this centre the CV% over two years were very high (31.7%) and hence data of this centre were not used for pooled analysis. The zonal check variety, KDG 128 was the best for pod (2424 kg/ha) and KDG 123 was the best for kernel (1636 kg/ha) yield. None of the test genotypes could significantly surpass the pod and kernel yield of this best check. Among the test genotypes, K 1811 was the best for pod (2522 kg/ha) and kernel (1690 kg/ha) yield.

Digraj

In this location, the mean pod and kernel yields of the genotypes over two years were high (2075 kg/ha and 1426 kg/ha respectively). Over two years, the zonal check variety, KDG 123 was the best for pod (2851 kg/ha) and kernel yield (1977 kg/ha). None of the test genotypes could significantly surpass the pod and kernel yield of this best check. Among the test genotypes, K 1811 was the best for pod (2620 kg/ha), whereas for kernel yield, K 1847 (1893 kg/ha) was the best.

Jagtial

The Jagtial centre has been phased as on 1 April 2018. Hence this centre did not conduct the second year trial and accordingly the data of this centre was not used for pooled analysis over locations. In this centre the pod (2612 kg/ha) and kernel yield (1763 kg/ha) during kharif 2017 were high. In *kharif* 2017, the zonal check variety, KDG 123 was the best with a very high pod (4054 kg/ha) and kernel yield (2706 kg/ha). Among the test genotypes, K 1811 significantly surpassed the pod (5028 kg/ha) and kernel (3430 kg/ha) yield of the best check, KDG 123.

Palem

The Palem centre conducted the second year trial of Jagtial centre and hence due to change of locations the data of this centre could also not be used for pooled analysis. In this centre the pod (116 kg/ha) and kernel yield (703 kg/ha) during kharif 2018 were very low. In *kharif* 2018, the zonal check variety, GG 16 was the best for pod (1443 kg/ha) and KDG 128 was the best for kernel yield (840 kg/ha). Among the test genotypes JSP 65 was the best for pod with a numerically high value (1515 kg/ha) while the same genotype significantly surpassed (985 kg/ha) the kernel yield of the best check, KDG 128 (ZC).

Zonal Mean Performances

In this zone, the mean pod and kernel yields of the genotypes over two years and six locations were high (2378 kg/ha and 1661 kg/ha respectively). Across six locations and over two years, the zonal check variety, KDG 123 was the best for pod (3006 kg/ha) and kernel (2079 kg/ha) yield and surpassed all the other checks and test genotypes for pod yield only. Among the test genotypes, K 1811 was the best for pod (2970 kg/ha) and kernel yield (2090 kg/ha). The genotype K 1811 fell short of just 36 kg only for pod yield and almost the same or marginally superior. Seven out of 10 locations KDG 123 topped the list; 3 out of 10 by KDG 128 (ZC) for pod yield. Among the test genotypes, K 1811 topped the list by 8 out of 10 times.

Ancillary Observation

Plant stand was low in almost all the centres. The test genotypes and checks matured around 119-120 days. Shelling outturn ranged between 67% and 73% (K 1847); followed by 72% in NRCGCS 590, JSP 65, and 71% in NRCGCS 591. The 100-seed weight was low (38 g) in KDG 128 and 39g in KDG 123, K 1811; and high (52 g) in NRCGCS 590. Oil content ranged from 47% (K 1847) to 52% (NRCGCS 592, NRCGCS 590, JSSP 59). Protein content ranged from 25%-27%.

Conclusion

Although none of the test genotypes could significantly surpass the yield levels of the best check, KDG 123 for pod as well as kernel yields, the genotype K 1811 which was the best for pod and kernel yield and fell short of just 36 kg only for pod yield and almost the same or marginally superior for kernel yield over the best check and expressed a stable yield (topped the list by 8 out of 10 times) deserves promotion to AVT.

ZONE I

Table 15a: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED

Pod yield (kg/ha)

S.N.	Entry	Mainpuri			Durgapura			Bikaner *			Ludhiana			Bawal **	Pooled mean (3 Ctrs)	R
		2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017		
1	IVK I 2017-1 NRCG CS 589	1836	1813	1825	4135	3394	3765	4309	1809	3059	1887	3067	2477	2296	2689	6
2	IVK I 2017-2 RG 622-2	1245	2679	1962	5048	4567	4807	4119	1987	3053	2033	2604	2318	3274	3029	2
3	IVK I 2017-3 JSP 64	1182	2325	1754	3170	3802	3486	4006	3707	3857	1374	1963	1669	1570	2303	12
4	IVK I 2017-4 NRCG CS 588	1576	2601	2089	3791	3625	3708	3933	2821	3377	1753	2090	1921	1748	2573	7
5	IVK I 2017-5 K 1811	1702	2995	2349	4304	3621	3962	3261	3378	3320	3129	2381	2755	3022	3022	3
6	IVK I 2017-6 NRCG CS 592	1544	2246	1895	2888	3022	2955	3552	2520	3036	2457	1579	2018	1793	2289	13
7	IVK I 2017-7 JSP 65	1166	2285	1726	2857	3394	3125	3024	2616	2820	1713	1399	1556	2459	2136	17
8	IVK I 2017-8 NRCG CS 590	1545	2325	1935	2695	2912	2804	3442	3811	3627	1781	1769	1775	1719	2171	16
9	IVK I 2017-9 K 1847	1024	2837	1931	2203	3142	2672	2672	2047	2359	1463	1089	1276	1719	1960	19
10	IVK I 2017-10 JSSP 60	2096	3152	2624	2851	2226	2538	3259	3280	3270	1916	1626	1771	1570	2311	11
11	IVK I 2017-11 NRCG CS 591	1576	2325	1951	3053	2171	2612	3976	1671	2824	933	1291	1112	1526	1892	20
12	IVK I 2017-12 JSSP 59	1529	2443	1986	3195	3286	3241	4043	2774	3408	792	1141	967	1496	2064	18
13	IVK I 2017-14 Girnar 2 (ZC)	1655	2640	2147	4190	2872	3531	4367	2912	3639	1544	2481	2013	1822	2564	8
14	IVK I 2017-15 GG 21 (ZC)	1103	2522	1813	3278	2933	3106	3586	2829	3208	1390	1801	1596	1600	2171	15
15	IVK I 2017-16 HNG 69 (ZC)	1229	2364	1797	3256	2435	2845	4002	1858	2930	1878	1885	1882	2385	2174	14
16	IVK I 2017-17 Utkarsh (ZC)	1970	3113	2542	3452	3759	3605	3984	2905	3445	1893	1982	1938	2726	2695	5
17	IVK I 2017-18 CSMG 2003-19 (ZC)	2333	3586	2959	4354	3779	4066	4372	1607	2990	3013	3456	3234	2815	3420	1
18	IVK I 2017-19 Raj Mungfali-1 (ZC)	1592	2482	2037	5162	4338	4750	4568	4265	4416	2334	2117	2225	2948	3004	4
19	IVK I 2017-20 HNG 123 (ZC)	1103	2916	2010	3672	3010	3341	4675	3244	3959	1754	1688	1721	1443	2357	10
20	IVK I 2017-21 Raj Mungfali-3 (ZC)	1277	2490	1883	4736	3983	4360	4123	3333	3728	909	1641	1275	2756	2506	9
	G.M	1514	2607	2061	3614	3314	3464	3864	2769	3316	1797	1953	1875	2134	2466	
	S.E. Diff. Mean	56.5	74.0	68.7	204.4	238.6	222.1	651.1	580.1	615.2	156.5	140.5	148.7	91.6	159.0	
	CD at 5%	113.1	148.0	137.2	409.3	477.3	444.1	NS	1160.2	1229.8	313.4	280.9	297.2	183.5	311.6	
	CV %	5.3	4.0	4.5	8.0	10.2	9.1	23.8	29.6	26.3	12.3	10.2	11.2	6.1	9.1	

* Not included in the pooled analysis due to high CV %

** Not included in the pooled analysis as trial conducted only for one year

Table 15b: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED

Kernel yield (kg/ha)

S.N.	Entry	Mainpuri			Durgapura			Bikaner *			Ludhiana			Bawal **	Pooled mean (3 Ctrs)	R
		2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017		
1	IVK I 2017-1 NRCG CS 589	1250	1269	1259	3015	2494	2754	2545	1123	1834	1336	1994	1665	1493	1893	5
2	IVK I 2017-2 RG 622-2	834	1849	1341	3629	3346	3487	1988	1191	1590	1475	1737	1606	2192	2145	2
3	IVK I 2017-3 JSP 64	815	1627	1221	2153	2784	2468	2046	2327	2186	974	1264	1119	898	1603	11
4	IVK I 2017-4 NRCG CS 588	1103	1794	1449	2676	2553	2614	1960	1888	1924	1211	1375	1293	1060	1785	7
5	IVK I 2017-5 K 1811	1209	2155	1682	2921	2491	2706	1687	2157	1922	2241	1657	1949	1963	2112	3
6	IVK I 2017-6 NRCG CS 592	1081	1549	1315	1844	2239	2042	2159	1649	1904	1799	1102	1450	1144	1602	12
7	IVK I 2017-7 JSP 65	828	1600	1214	1877	2483	2180	1563	1805	1684	1218	974	1096	1664	1497	17
8	IVK I 2017-8 NRCG CS 590	1081	1581	1331	1872	2110	1991	1877	2671	2274	1191	1158	1175	1138	1499	15
9	IVK I 2017-9 K 1847	697	1986	1342	1528	2310	1919	1390	1353	1371	1069	730	899	1131	1387	19
10	IVK I 2017-10 JSSP 60	1510	2269	1889	1900	1547	1723	1746	2197	1972	1272	1083	1178	1006	1597	13
11	IVK I 2017-11 NRCG CS 591	1135	1650	1392	2133	1512	1822	2105	1118	1611	697	911	804	1027	1340	20
12	IVK I 2017-12 JSSP 59	1055	1709	1382	2217	2386	2301	1942	1935	1938	568	760	664	973	1449	18
13	IVK I 2017-14 Girnar 2 (ZC)	1124	1821	1473	2789	2120	2455	2486	2160	2323	1120	1676	1398	1158	1775	8
14	IVK I 2017-15 GG 21 (ZC)	772	1791	1282	2114	2124	2119	2112	1928	2020	1017	1166	1091	1016	1497	16
15	IVK I 2017-16 HNG 69 (ZC)	849	1677	1263	2381	1693	2037	2117	1219	1668	1373	1258	1315	1578	1538	14
16	IVK I 2017-17 Utkarsh (ZC)	1379	2241	1810	2274	2712	2493	2270	1795	2032	1357	1322	1340	1701	1881	6
17	IVK I 2017-18 CSMG 2003-19 (ZC)	1656	2582	2119	2910	2763	2836	2407	1056	1731	2121	2165	2143	1852	2366	1
18	IVK I 2017-19 Raj Mungfali-1 (ZC)	1084	1738	1411	3302	3186	3244	2286	2767	2527	1664	1460	1562	2102	2072	4
19	IVK I 2017-20 HNG 123 (ZC)	761	2005	1383	2415	2071	2243	2520	2031	2276	1283	1086	1184	802	1603	10
20	IVK I 2017-21 Raj Mungfali-3 (ZC)	893	1743	1318	3107	2925	3016	2156	2105	2131	674	1031	852	1792	1729	9
	G.M	1056	1832	1444	2453	2392	2423	2068	1824	1946	1283	1295	1289	1384	1718	
	S.E. Diff. Mean	41.6	53.8	48.1	137.1	170.9	154.9	380.4	424.5	403.1	110.2	95.9	103.3	73.8	111.0	
	CD at 5%	83.3	107.7	96.2	274.5	341.7	309.6	NS	849.0	805.7	220.6	191.8	206.5	147.8	217.6	
	CV %	5.6	4.2	4.7	7.9	10.1	9.0	26.0	32.0	29.3	12.1	11.0	11.3	7.5	9.1	

* Not included in the pooled analysis due to high CV %

** Not included in the pooled analysis as trial conducted only for one year

Table 15c: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED Ancillary traits

S.N.	Entry	Trait	Mainpuri			Durgapura			Bikaner *			Ludhiana			Bawal **	Pooled mean (3 Ctrs)
			2017	2018	Mea	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	
1	IVK I 2017-1	PS	139	142	140	148	140	144	140	76	108	139	138	139	113	141
	NRCG CS 589	D	118	117	118	126	125	126	-	-	-	112	114	113	124	119
		S	68	70	69	73	74	73	59	63	61	71	65	68	65	70
		HKW	32	36	34	60	61	60	-	-	-	45	51	48	61	48
		SMK	89	92	91	95	94	95	-	-	-	89	86	88	67	91
		O	52	48	50	51	52	51	-	-	-	53	48	51	-	51
		P	23	26	25	30	26	28	-	-	-	28	-	28	-	27
2	IVK I 2017-2	PS	123	132	128	149	142	146	132	66	99	142	128	135	140	136
	RG 622-2	D	120	121	121	130	130	130	-	-	-	114	116	115	126	122
		S	67	69	68	72	73	73	48	59	53	73	67	70	67	70
		HKW	36	39	38	72	69	71	-	-	-	63	58	61	72	56
		SMK	94	97	96	94	96	95	-	-	-	80	80	80	71	90
		O	50	47	49	49	49	49	-	-	-	53	48	51	-	49
		P	21	26	23	29	27	28	-	-	-	26	-	26	-	26
3	IVK I 2017-3	PS	143	140	142	149	136	143	127	77	102	66	129	98	136	127
	JSP 64	D	119	118	118	126	128	127	-	-	-	109	111	110	124	118
		S	69	70	70	68	73	71	51	62	57	71	64	68	57	69
		HKW	33	38	36	56	51	54	-	-	-	44	71	57	55	49
		SMK	95	98	97	93	88	91	-	-	-	87	88	88	59	92
		O	51	46	48	51	49	50	-	-	-	52	49	51	-	50
		P	22	28	25	29	27	28	-	-	-	28	-	28	-	27
4	IVK I 2017-4	PS	136	140	138	146	142	144	131	96	114	122	125	124	132	135
	NRCG CS 588	D	117	120	119	128	127	128	-	-	-	115	114	114	127	120
		S	70	69	70	71	70	71	49	67	58	69	66	68	61	69
		HKW	35	36	36	51	57	54	-	-	-	45	45	45	55	45
		SMK	94	96	95	90	90	90	-	-	-	88	83	86	65	90
		O	52	48	50	51	52	51	-	-	-	53	48	51	-	51
		P	21	25	23	29	26	28	-	-	-	27	-	27	-	26
5	IVK I 2017-5	PS	137	136	136	141	140	141	133	92	112	129	145	137	135	138
	K 1811	D	116	118	117	130	129	130	-	-	-	117	120	118	124	122
		S	71	72	72	68	69	68	52	64	58	72	75	74	65	71
		HKW	30	34	32	40	64	52	-	-	-	37	39	38	48	41
		SMK	92	97	95	91	95	93	-	-	-	71	87	79	80	89
		O	51	50	51	51	49	50	-	-	-	53	49	51	-	51
		P	24	24	24	29	27	28	-	-	-	28	-	28	-	27
6	IVK I 2017-6	PS	142	131	136	136	145	141	131	77	104	116	133	125	89	134
	NRCG CS 592	D	119	120	119	127	127	127	-	-	-	109	108	109	123	118
		S	70	69	70	64	74	69	59	66	63	73	70	71	64	70
		HKW	33	36	35	55	60	57	-	-	-	47	51	49	64	47
		SMK	90	94	92	90	95	93	-	-	-	80	73	76	82	87
		O	53	49	51	50	52	51	-	-	-	55	47	51	-	51
		P	20	25	22	29	26	27	-	-	-	26	-	26	-	25
7	IVK I 2017-7	PS	134	136	135	146	143	145	141	78	109	99	144	122	116	134
	JSP 65	D	120	119	120	128	128	128	-	-	-	107	110	109	124	119
		S	71	70	71	66	73	69	53	52	52	71	70	70	68	70
		HKW	35	38	37	50	63	56	-	-	-	45	49	47	63	47
		SMK	95	97	96	92	94	93	-	-	-	87	83	85	85	91
		O	54	48	51	50	51	50	-	-	-	55	48	52	-	51
		P	20	26	23	29	26	28	-	-	-	26	-	26	-	26

S.N.	Entry	Trait	Mainpuri			Durgapura			Bikaner *			Ludhiana			Bawal **	Pooled mean (3 Ctrs)
			2017	2018	Mea	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	
8	IVK I 2017-8 NRCG CS 590	PS	136	140	138	146	139	143	140	90	115	114	141	128	141	136
		D	119	121	120	128	129	129	-	-	-	110	112	111	123	120
		S	70	68	69	69	73	71	56	70	63	67	65	66	66	69
		HKW	40	42	41	56	57	56	-	-	-	43	48	45	70	48
		SMK	94	96	95	90	88	89	-	-	-	81	83	82	77	89
		O	53	51	52	50	51	51	-	-	-	54	49	51	-	51
		P	22	24	23	29	26	27	-	-	-	26	-	26	-	26
9	IVK I 2017-9 K 1847	PS	140	132	136	145	142	144	139	84	111	110	133	122	133	134
		D	118	119	119	129	130	130	-	-	-	115	120	117	126	122
		S	68	70	69	69	74	71	53	67	60	73	67	70	66	70
		HKW	32	34	33	57	59	58	-	-	-	33	36	35	45	42
		SMK	96	96	96	91	90	91	-	-	-	79	76	77	70	88
		O	47	46	47	51	52	51	-	-	-	50	49	50	-	49
		P	24	27	26	29	26	27	-	-	-	28	-	28	-	27
10	IVK I 2017-10 JSSP 60	PS	142	136	139	138	145	142	134	82	108	109	134	121	139	134
		D	119	120	120	128	130	129	-	-	-	117	121	119	126	123
		S	72	72	72	67	70	68	54	68	61	66	67	66	64	69
		HKW	32	36	34	37	41	39	-	-	-	44	46	45	54	39
		SMK	92	96	94	90	89	90	-	-	-	87	84	86	89	90
		O	49	47	48	48	51	50	-	-	-	52	49	51	-	49
		P	24	26	25	28	26	27	-	-	-	28	-	28	-	27
11	IVK I 2017-11 NRCG CS 591	PS	140	136	138	151	143	147	133	81	107	60	133	96	94	127
		D	122	121	122	129	130	130	-	-	-	109	107	108	123	120
		S	72	71	72	70	70	70	53	67	60	75	71	73	67	71
		HKW	40	42	41	56	47	51	-	-	-	42	50	46	60	46
		SMK	92	95	94	93	85	89	-	-	-	79	77	78	85	87
		O	53	48	51	50	47	48	-	-	-	55	48	52	-	50
		P	21	26	23	29	28	28	-	-	-	27	-	27	-	26
12	IVK I 2017-12 JSSP 59	PS	136	142	139	145	142	144	134	86	110	59	126	92	140	125
		D	124	125	125	128	129	129	-	-	-	111	111	111	123	121
		S	69	70	70	69	73	71	48	69	59	72	67	69	65	70
		HKW	33	36	35	42	63	53	-	-	-	44	43	43	63	43
		SMK	90	92	91	93	95	94	-	-	-	89	84	86	90	90
		O	54	46	50	50	49	49	-	-	-	54	48	51	-	50
		P	20	27	24	30	27	28	-	-	-	26	-	26	-	26
13	IVK I 2017-14 Gimar 2 (ZC)	PS	142	139	140	146	137	142	133	95	114	92	136	114	113	132
		D	120	122	121	130	129	130	-	-	-	107	108	108	124	119
		S	68	69	69	67	74	70	56	75	66	73	68	70	64	70
		HKW	35	39	37	52	59	55	-	-	-	49	55	52	52	48
		SMK	92	94	93	95	92	94	-	-	-	80	71	76	79	87
		O	49	49	49	50	50	50	-	-	-	52	48	50	-	50
		P	21	26	23	28	26	27	-	-	-	26	-	26	-	25
14	IVK I 2017-15 GG 21 (ZC)	PS	134	131	132	149	143	146	135	80	108	97	134	115	137	131
		D	123	125	124	128	128	128	-	-	-	106	109	108	125	120
		S	70	71	71	65	73	69	59	69	64	73	65	69	63	69
		HKW	36	40	38	51	60	56	-	-	-	44	46	45	60	46
		SMK	90	92	91	93	94	94	-	-	-	86	83	85	67	90
		O	52	50	51	52	52	52	-	-	-	54	48	51	-	51
		P	21	25	23	29	26	28	-	-	-	27	-	27	-	26

S.N.	Entry	Trait	Mainpuri			Durgapura			Bikaner *			Ludhiana			Bawal **	Pooled mean (3 Ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	
15	IVK I 2017-16 HNG 69 (ZC)	PS	129	132	131	146	139	143	138	98	118	106	134	120	110	131
		D	120	118	119	128	129	129	-	-	-	110	110	110	126	119
		S	69	71	70	73	70	71	53	68	60	73	67	70	66	70
		HKW	38	42	40	56	55	55	-	-	-	49	65	57	61	51
		SMK	92	93	93	93	87	90	-	-	-	86	80	83	73	88
		O	50	46	48	49	49	49	-	-	-	51	50	50	-	49
		P	21	27	24	28	26	27	-	-	-	27	-	27	-	26
16	IVK I 2017-17 Utkarsh (ZC)	PS	139	139	139	149	140	145	134	83	108	101	145	123	108	135
		D	119	121	120	130	130	130	-	-	-	113	115	114	126	121
		S	70	72	71	66	72	69	57	62	59	72	67	69	62	70
		HKW	46	48	47	58	68	63	-	-	-	64	62	63	60	58
		SMK	94	95	95	92	96	94	-	-	-	87	78	82	63	90
		O	47	47	47	49	49	49	-	-	-	52	48	50	-	49
		P	22	26	24	28	27	27	-	-	-	28	-	28	-	27
17	IVK I 2017-18 CSMG 2003-19 (ZC)	PS	140	143	142	142	139	141	138	71	105	136	140	138	109	140
		D	122	120	121	129	129	129	-	-	-	115	116	115	124	122
		S	71	72	72	67	73	70	55	49	52	70	63	67	66	69
		HKW	48	50	49	67	66	67	-	-	-	60	51	56	61	57
		SMK	95	98	97	93	95	94	-	-	-	82	86	84	61	91
		O	49	46	47	48	49	49	-	-	-	52	49	51	-	49
		P	21	27	24	28	26	27	-	-	-	25	-	25	-	25
18	IVK I 2017-19 Raj Mungfali-1 (ZC)	PS	132	136	134	151	145	148	140	85	113	114	132	123	120	135
		D	118	117	117	127	127	127	-	-	-	116	114	115	125	120
		S	68	70	69	64	74	69	50	65	57	71	69	70	71	69
		HKW	39	43	41	62	59	60	-	-	-	48	45	47	54	49
		SMK	92	94	93	96	89	93	-	-	-	84	81	83	84	89
		O	50	47	49	50	50	50	-	-	-	54	48	51	-	50
		P	20	26	23	29	26	28	-	-	-	25	-	25	-	25
19	IVK I 2017-20 HNG 123 (ZC)	PS	129	132	131	149	143	146	139	96	117	115	134	125	45	134
		D	114	116	115	129	130	130	-	-	-	114	117	115	126	120
		S	69	68	69	66	69	67	54	61	58	73	65	69	56	68
		HKW	35	38	37	65	57	61	-	-	-	51	54	52	49	50
		SMK	93	96	95	95	88	92	-	-	-	82	81	82	56	89
		O	50	48	49	50	50	50	-	-	-	52	50	51	-	50
		P	20	26	23	28	27	27	-	-	-	26	-	26	-	25
20	IVK I 2017-21 Raj Mungfali-3 (ZC)	PS	130	139	134	146	145	146	147	102	125	65	138	102	97	127
		D	117	118	118	129	129	129	-	-	-	116	117	116	126	121
		S	70	70	70	66	74	70	52	62	57	74	63	69	65	69
		HKW	40	40	40	65	74	69	-	-	-	72	63	67	66	59
		SMK	90	94	92	94	92	93	-	-	-	85	75	80	88	88
		O	50	47	49	50	50	50	-	-	-	54	49	51	-	50
		P	20	26	23	28	26	27	-	-	-	26	-	26	-	25
Final plant stand (000/ha)																
	GM		136	137	136	146	142	144	136	85	110	105	135	120	117	133
	S.E. Diff. Mean		4.4	3.9	4.2	3.9	2.7	3.4	5.1	7.6	6.5	7.4	3.9	5.9	4.3	4.7
	CD at 5%		8.8	7.9	8.3	7.9	5.3	6.7	NS	15.2	12.9	14.8	7.8	11.8	8.7	9.1
	CV %		4.6	4.1	4.4	3.8	2.7	3.3	5.3	12.7	8.3	10.0	4.1	7.0	5.2	4.9

* Not included in the pooled analysis due to high CV %

** Not included in the pooled analysis as trial conducted only for one year

ZONE II

**Table 16a: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED
Pod yield (kg/ha)**

S.N.	Entry	Junagadh			Amreli *			Talod			Pratapgarh			Pooled mean (3 ctrs)	R
		2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		
1	IVK I 2017-1 NRCG CS 589	1667	1491	1579	1030	1562	1296	2644	3333	2988	1182	1970	1576	2048	14
2	IVK I 2017-2 RG 622-2	1829	2149	1989	1161	1209	1185	2423	3475	2949	1044	1103	1074	2004	15
3	IVK I 2017-3 JSP 64	2342	2201	2272	1355	1392	1374	2522	3909	3215	1359	1931	1645	2377	4
4	IVK I 2017-4 NRCG CS 588	2061	1800	1931	808	1909	1358	2167	3704	2936	1182	2167	1675	2180	9
5	IVK I 2017-5 K 1811	2633	2655	2644	1345	1770	1558	2088	3168	2628	1143	2285	1714	2329	5
6	IVK I 2017-6 NRCG CS 592	2044	2148	2096	811	1271	1041	2088	3964	3026	946	2009	1477	2200	8
7	IVK I 2017-7 JSP 65	2392	2035	2214	1124	1313	1218	1635	3727	2681	965	2088	1527	2140	10
8	IVK I 2017-8 NRCG CS 590	2275	1963	2119	753	1564	1159	1931	3329	2630	1064	1793	1428	2059	13
9	IVK I 2017-9 K 1847	1983	2188	2086	988	1070	1029	1655	2979	2317	1753	2009	1881	2095	12
10	IVK I 2017-10 JSSP 60	2319	2255	2287	1121	1458	1289	1970	3412	2691	1517	2285	1901	2293	6
11	IVK I 2017-11 NRCG CS 591	1747	2247	1997	600	1209	905	1931	3562	2746	1143	2207	1675	2139	11
12	IVK I 2017-12 JSSP 59	2456	2227	2342	910	1571	1240	2463	3665	3064	1202	2404	1803	2403	3
13	IVK I 2017-22 Somnath (ZC)	1935	2219	2077	749	1440	1095	2364	3294	2829	1103	2285	1694	2200	7
14	IVK I 2017-23 GG 20 (ZC)	2059	1939	1999	830	1469	1150	2073	2979	2526	1064	1734	1399	1975	17
15	IVK I 2017-24 GJG 22 (ZC)	2089	2166	2128	997	1377	1187	1970	2435	2203	1281	2010	1645	1992	16
16	IVK I 2017-25 KDG 128 (ZC)	2657	2539	2598	1264	1955	1610	2837	3570	3203	1300	2207	1754	2518	1
17	IVK I 2017-26 KDG 123 (ZC)	2742	2661	2701	1286	1889	1587	2955	3499	3227	1379	1458	1419	2449	2
	G.M	2190	2170	2180	1008	1496	1252	2218	3412	2815	1213	1997	1605	2200	
	S.E. Diff. Mean	156.5	174.5	165.7	81.2	129.5	108.1	204.8	317.7	281.5	104.7	156.6	133.2	282.0	
	CD at 5%	314.7	350.9	329.8	163.2	260.4	215.1	411.7	638.9	560.3	210.5	314.9	265.0	552.8	
	CV %	10.1	11.4	10.8	11.4	12.3	12.2	13.1	13.2	13.4	12.2	11.1	11.7	12.7	

* The centre not included in the pooled analysis because its pod yield was below triennial national average (1436 kg/ha).

**Table 16b: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED
Kernel yield (kg/ha)**

S.N.	Entry	Junagadh			Amreli *			Talod			Pratapgarh			Pooled mean (3 cfrs)	R
		2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		
1	IVK I 2017-1 NRCG CS 589	1087	1055	1071	616	967	791	1565	2154	1860	710	1325	1017	1316	16
2	IVK I 2017-2 RG 622-2	1162	1540	1351	687	691	689	1560	2143	1852	602	714	658	1287	17
3	IVK I 2017-3 JSP 64	1465	1549	1507	772	842	807	1541	2409	1975	814	1163	989	1490	5
4	IVK I 2017-4 NRCG CS 588	1393	1322	1358	482	1202	842	1437	2073	1755	696	1360	1028	1380	13
5	IVK I 2017-5 K 1811	1635	1939	1787	882	1163	1022	1441	2036	1738	681	1474	1078	1534	4
6	IVK I 2017-6 NRCG CS 592	1467	1612	1540	530	850	690	1218	2571	1894	509	1392	951	1462	8
7	IVK I 2017-7 JSP 65	1717	1523	1620	736	906	821	1117	2484	1800	583	1464	1024	1481	7
8	IVK I 2017-8 NRCG CS 590	1653	1469	1561	506	1031	768	1274	2303	1789	591	1242	916	1422	12
9	IVK I 2017-9 K 1847	1442	1628	1535	640	734	687	1048	2038	1543	1143	1429	1286	1455	9
10	IVK I 2017-10 JSSP 60	1537	1533	1535	636	894	765	1113	2145	1629	835	1428	1131	1432	11
11	IVK I 2017-11 NRCG CS 591	1232	1640	1436	395	779	587	1300	2352	1826	652	1541	1096	1453	10
12	IVK I 2017-12 JSSP 59	1782	1657	1720	597	1054	825	1709	2547	2128	686	1699	1192	1680	1
13	IVK I 2017-22 Somnath (ZC)	1314	1655	1485	496	954	725	1556	2224	1890	618	1536	1077	1484	6
14	IVK I 2017-23 GG 20 (ZC)	1415	1378	1396	551	995	773	1455	1998	1727	590	1119	855	1326	14
15	IVK I 2017-24 GJG 22 (ZC)	1473	1544	1508	620	865	743	1259	1563	1411	694	1421	1058	1326	15
16	IVK I 2017-25 KDG 128 (ZC)	1626	1873	1749	806	1272	1039	1909	2331	2120	722	1419	1070	1647	2
17	IVK I 2017-26 KDG 123 (ZC)	1892	1959	1925	824	1244	1034	1971	2237	2104	738	1014	876	1635	3
	G.M	1488	1581	1534	634	967	800	1439	2212	1826	698	1338	1018	1459	
	S.E. Diff. Mean	104.0	127.7	116.5	51.5	90.2	73.4	135.7	222.7	184.4	62.5	109.7	89.2	136.1	
	CD at 5%	209.1	256.8	231.7	103.5	181.4	146.1	272.8	447.9	367.0	125.6	220.6	177.6	266.7	
	CV %	9.9	11.4	10.7	11.5	13.2	13.0	13.3	14.2	14.3	12.7	11.6	12.4	13.2	

* The centre not included in the pooled analysis because its pod yield was below triennial national average (1436 kg/ha).

Table 16c: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED Ancillary traits

S.N.	Entry	Trait	Junagadh			Amreli *			Talod			Pratapgarh			Pooled mean (3 ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	
1	IVK I 2017-1	PS	146	143	145	103	106	105	145	145	145	128	136	132	141
	NRCG CS 589	D	118	108	113	121	121	121	127	118	123	106	110	108	115
		S	65	71	68	60	62	61	59	64	62	60	67	64	64
		HKW	38	56	47	30	38	34	44	62	53	34	47	41	47
		SMK	91	87	89	93	96	95	-	39	39	86	-	86	71
		O	51	52	51	49	51	50	-	55	-	-	51	-	51
		P	26	26	26	26	27	27	-	25	-	-	26	-	26
2	IVK I 2017-2	PS	146	143	145	105	105	105	165	143	154	133	131	132	144
	RG 622-2	D	121	109	115	122	122	122	126	117	122	106	108	107	115
		S	64	72	68	59	57	58	64	62	63	58	65	62	64
		HKW	41	63	52	31	43	37	52	61	57	31	54	43	50
		SMK	88	86	87	90	92	91	-	49	49	86	-	86	74
		O	51	50	51	47	49	48	-	51	-	-	50	-	51
		P	24	26	25	26	28	27	-	26	-	-	26	-	25
3	IVK I 2017-3	PS	146	143	145	107	109	108	150	147	149	134	137	136	143
	JSP 64	D	121	112	117	125	124	125	127	116	122	106	103	105	114
		S	63	70	66	57	60	59	61	62	61	60	60	60	63
		HKW	34	59	47	29	38	33	40	60	50	32	39	36	44
		SMK	93	94	94	87	91	89	-	51	51	85	-	85	76
		O	49	49	49	47	50	49	-	51	-	-	46	-	49
		P	25	27	26	26	27	27	-	27	-	-	28	-	26
4	IVK I 2017-4	PS	144	144	144	104	108	106	145	141	143	137	152	145	144
	NRCG CS 588	D	118	111	115	125	125	125	126	117	122	106	107	107	114
		S	68	73	71	60	63	61	66	56	61	59	63	61	64
		HKW	41	57	49	29	38	34	42	52	47	28	50	39	45
		SMK	84	87	85	92	93	93	-	50	50	90	-	90	75
		O	53	53	53	49	52	50	-	55	-	-	52	-	53
		P	25	26	25	26	26	26	-	25	-	-	25	-	25
5	IVK I 2017-5	PS	143	141	142	106	101	104	164	146	155	135	142	139	145
	K 1811	D	122	112	117	124	125	124	127	118	123	106	108	107	116
		S	62	73	68	66	66	66	69	64	67	60	65	63	66
		HKW	33	42	37	29	33	31	42	64	53	29	41	35	42
		SMK	92	85	89	94	95	95	-	68	68	87	-	87	81
		O	50	52	51	50	52	51	-	54	-	-	50	-	51
		P	28	26	27	28	26	27	-	25	-	-	26	-	27
6	IVK I 2017-6	PS	146	143	145	105	106	106	140	143	141	136	148	142	143
	NRCG CS 592	D	119	112	116	120	120	120	127	117	122	106	112	109	116
		S	72	75	73	65	67	66	58	65	62	54	69	62	66
		HKW	51	59	55	39	43	41	42	61	51	31	60	46	51
		SMK	97	95	96	97	99	98	-	52	52	89	-	89	79
		O	52	52	52	51	52	52	-	52	-	-	49	-	52
		P	27	26	27	27	26	26	-	26	-	-	26	-	27

S.N.	Entry	Trait	Junagadh			Amreli *			Talod			Pratapgarh			Pooled mean (3 ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	
7	IVK I 2017-7 JSP 65	PS	145	141	143	106	106	106	131	143	137	135	135	135	138
		D	119	109	114	118	118	118	126	117	122	106	111	109	115
		S	72	75	73	66	69	67	68	66	67	60	70	65	69
		HKW	56	61	59	43	45	44	50	62	56	33	58	46	53
		SMK	99	90	94	97	98	98	-	60	60	88	-	88	81
		O	54	52	53	51	52	52	-	54	-	-	51	-	53
		P	26	25	26	27	26	27	-	25	-	-	26	-	26
8	IVK I 2017-8 NRCG CS 590	PS	145	144	145	103	106	105	133	142	137	137	151	144	142
		D	119	108	114	123	123	123	125	116	121	106	108	107	114
		S	73	75	74	67	66	66	66	69	68	56	69	63	68
		HKW	51	63	57	44	46	45	44	60	52	30	61	46	52
		SMK	91	89	90	99	98	98	-	76	76	88	-	88	85
		O	53	51	52	50	54	52	-	54	-	-	51	-	52
		P	27	26	27	27	25	26	-	25	-	-	26	-	27
9	IVK I 2017-9 K 1847	PS	145	142	144	109	107	108	158	145	151	135	146	141	145
		D	120	110	115	124	125	124	125	117	121	107	112	110	115
		S	73	74	74	65	69	67	63	68	66	65	71	68	69
		HKW	37	44	40	32	36	34	48	53	50	30	43	37	42
		SMK	82	80	81	94	95	95	-	45	45	90	-	90	72
		O	49	48	48	47	48	48	-	51	-	-	46	-	48
		P	27	27	27	28	28	28	-	26	-	-	28	-	27
10	IVK I 2017-10 JSSP 60	PS	147	147	147	106	103	105	152	139	146	135	140	138	143
		D	118	109	114	118	119	119	127	117	122	107	108	108	114
		S	66	68	67	57	61	59	57	63	60	55	62	59	62
		HKW	36	45	41	29	39	34	34	59	46	30	40	35	41
		SMK	91	89	90	86	89	87	-	49	49	87	-	87	75
		O	48	48	48	47	50	48	-	50	-	-	46	-	48
		P	26	27	27	26	27	27	-	27	-	-	28	-	27
11	IVK I 2017-11 NRCG CS 591	PS	145	144	145	102	103	103	150	145	147	133	129	131	141
		D	121	110	116	126	126	126	127	118	123	107	110	109	116
		S	71	73	72	66	64	65	67	66	67	57	70	64	67
		HKW	51	55	53	40	42	41	46	89	67	40	55	48	56
		SMK	95	87	91	97	97	97	-	69	69	90	-	90	84
		O	52	51	51	51	52	52	-	55	-	-	50	-	51
		P	27	26	27	27	25	26	-	25	-	-	26	-	27
12	IVK I 2017-12 JSSP 59	PS	144	147	146	107	104	106	153	143	148	137	142	140	144
		D	119	112	116	120	120	120	127	118	123	106	109	108	115
		S	73	74	73	66	67	66	69	69	69	57	71	64	69
		HKW	50	58	54	44	43	43	50	68	59	34	59	47	53
		SMK	96	92	94	97	96	97	-	75	75	90	-	90	86
		O	53	53	53	50	52	51	-	54	-	-	51	-	53
		P	26	26	26	26	26	26	-	25	-	-	25	-	26

S.N.	Entry	Trait	Junagadh			Amreli *			Talod			Pratapgarh			Pooled mean (3 ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	
13	IVK I 2017-22	PS	145	142	144	107	103	105	154	144	149	135	135	135	143
	Somnath (ZC)	D	118	110	114	124	123	124	126	118	122	107	114	111	116
		S	68	75	71	66	66	66	66	68	67	56	67	62	67
		HKW	50	62	56	41	46	44	48	53	51	35	51	43	50
		SMK	96	87	92	97	99	98	-	59	59	88	-	88	79
		O	53	53	53	50	52	51	-	54	-	-	51	-	53
		P	27	25	26	27	26	27	-	25	-	-	26	-	26
14	IVK I 2017-23	PS	147	143	145	107	106	107	150	146	148	135	138	137	143
	GG 20 (ZC)	D	118	112	115	118	118	118	127	119	123	106	105	106	115
		S	69	71	70	66	68	67	70	67	69	56	65	61	66
		HKW	52	57	54	40	41	41	50	65	58	29	54	42	51
		SMK	97	93	95	96	97	96	-	68	68	85	-	85	83
		O	52	53	52	50	53	51	-	54	-	-	50	-	52
		P	27	25	26	27	26	26	-	25	-	-	26	-	26
15	IVK I 2017-24	PS	144	141	143	109	106	108	169	143	156	136	132	134	144
	GJG 22 (ZC)	D	119	112	116	127	127	127	129	116	123	107	112	110	116
		S	71	71	71	62	63	62	64	65	64	54	71	63	66
		HKW	49	58	53	39	43	41	44	44	44	31	59	45	47
		SMK	97	89	93	94	95	95	-	46	46	90	-	90	76
		O	52	50	51	50	52	51	-	55	-	-	47	-	51
		P	26	27	26	27	26	27	-	25	-	-	27	-	26
16	IVK I 2017-25	PS	145	134	140	105	103	104	126	145	135	135	140	138	137
	KDG 128 (ZC)	D	121	112	117	119	120	120	128	117	123	107	109	108	116
		S	61	74	68	64	65	64	67	65	66	55	64	60	64
		HKW	27	40	34	28	31	29	36	60	48	33	40	37	39
		SMK	81	93	87	93	94	93	-	44	44	90	-	90	74
		O	50	50	50	50	52	51	-	51	-	-	49	-	50
		P	27	29	28	28	26	27	-	26	-	-	27	-	28
17	IVK I 2017-26	PS	143	134	139	102	102	102	148	145	146	136	130	133	139
	KDG 123 (ZC)	D	120	111	116	126	125	125	129	119	124	107	110	109	116
		S	69	74	71	64	66	65	67	64	65	54	69	62	66
		HKW	39	48	43	28	32	30	34	47	41	33	43	38	41
		SMK	81	87	84	95	96	96	-	70	70	89	-	89	81
		O	50	51	50	49	52	51	-	51	-	-	48	-	50
		P	28	27	27	28	26	27	-	26	-	-	26	-	27
Final plant stand (000/ha)															
	GM		145	142	144	105	105	105	149	144	146	135	139	137	142
	S.E. Diff. Mean		2.2	3.0	2.6	2.9	2.9	2.9	7.8	2.8	5.8	3.2	5.5	4.5	4.5
	CD at 5%		NS	6.1	NS	NS	NS	NS	15.7	NS	11.6	NS	11.1	9.0	8.9
	CV %		2.2	3.0	6.2	3.9	4.0	3.9	7.4	2.7	5.7	3.4	5.6	4.7	4.5

* The centre not included in the pooled analysis because its pod yield was below triennial national average (1436 kg/ha).

ZONE IV

**Table 17a: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED
Pod yield (kg/ha)**

S.N.	Entry	Bhubaneswar			Mohanpur			Imphal			Kanke *	Pooled mean (3 Ctrs)	R
		2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017		
1	IVK I 2017-1 NRCG CS 589	1785	1103	1444	2248	2276	2262	2962	3492	3227	1576	2311	16
2	IVK I 2017-2 RG 622-2	1608	1202	1405	2228	2242	2235	3756	3855	3805	1391	2482	7
3	IVK I 2017-3 JSP 64	1635	1458	1547	1889	1930	1909	3376	3942	3659	1418	2372	12
4	IVK I 2017-4 NRCG CS 588	1753	1222	1488	2208	2158	2183	3300	3334	3317	1174	2329	15
5	IVK I 2017-5 K 1811	1891	1556	1724	3766	3272	3519	3392	3849	3621	1221	2954	3
6	IVK I 2017-6 NRCG CS 592	1832	1143	1488	2149	2074	2112	3436	3759	3597	1320	2399	10
7	IVK I 2017-7 JSP 65	1813	1379	1596	2149	2085	2117	3719	3169	3444	1757	2386	11
8	IVK I 2017-8 NRCG CS 590	2010	1655	1832	1932	1918	1925	3405	3285	3345	1493	2367	13
9	IVK I 2017-9 K 1847	2325	1753	2039	2169	2244	2206	3653	3717	3685	1568	2643	5
10	IVK I 2017-10 JSSP 60	1931	1694	1812	1893	1933	1913	3392	3847	3620	1982	2448	8
11	IVK I 2017-11 NRCG CS 591	1675	1399	1537	1972	2052	2012	3599	3363	3481	1552	2343	14
12	IVK I 2017-12 JSSP 59	2088	1162	1625	1223	1451	1337	3672	2977	3325	1706	2096	17
13	IVK I 2017-26 KDG 123 (ZC)	1734	1300	1517	3726	3698	3712	3631	3942	3787	1359	3005	1
14	IVK I 2017-27 BAU 13 (ZC)	2246	1340	1793	1853	1972	1913	3476	3657	3566	1785	2424	9
15	IVK I 2017-28 GJG 18 (ZC)	2404	1517	1960	2228	2219	2224	3688	3780	3734	1537	2639	6
16	IVK I 2017-29 Raj Mungfali-2 (ZC)	2167	1281	1724	3273	3301	3287	3969	3814	3892	1576	2968	2
17	IVK I 2017-30 GJG 19 (ZC)	1970	1616	1793	2711	2833	2772	3924	3529	3727	2010	2764	4
	G.M	1933	1399	1666	2330	2333	2332	3550	3607	3578	1554	2525	
	S.E. Diff. Mean	63.7	84.6	74.9	361.3	246.8	309.4	345.8	219.3	289.5	164.1	248.4	
	CD at 5%	128.1	170.1	149.0	726.5	496.3	NS	NS	440.9	NS	330.0	NS	
	CV %	4.7	8.6	6.4	21.9	15.0	18.8	13.8	8.6	11.4	14.9	13.9	

* Not included in the pooled analysis as trial conducted only for one year

**Table 17b: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED
Kernel yield (kg/ha)**

S.N.	Entry	Bhubaneswar			Mohampur			Imphal			Kanke *	Pooled mean (3 Ctrs)	R
		2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017		
1	IVK I 2017-1 NRCG CS 589	1061	680	871	1477	1526	1502	2121	2490	2305	1132	1559	16
2	IVK I 2017-2 RG 622-2	927	749	838	1569	1577	1573	2800	2862	2831	949	1747	7
3	IVK I 2017-3 JSP 64	944	905	925	1319	1357	1338	2380	2852	2616	983	1626	14
4	IVK I 2017-4 NRCG CS 588	1042	767	905	1524	1494	1509	2360	2414	2387	855	1600	15
5	IVK I 2017-5 K 1811	1130	960	1045	2663	2333	2498	2509	2881	2695	843	2079	3
6	IVK I 2017-6 NRCG CS 592	1192	730	961	1437	1391	1414	2511	2732	2622	900	1665	10
7	IVK I 2017-7 JSP 65	1191	864	1028	1495	1454	1474	2772	2350	2561	1247	1688	8
8	IVK I 2017-8 NRCG CS 590	1257	1059	1158	1361	1358	1360	2508	2422	2465	1041	1661	12
9	IVK I 2017-9 K 1847	1684	1155	1420	1570	1618	1594	2627	2734	2681	1041	1898	4
10	IVK I 2017-10 JSSP 60	1140	1112	1126	1340	1366	1353	2393	2738	2565	1344	1681	9
11	IVK I 2017-11 NRCG CS 591	1121	877	999	1382	1437	1410	2640	2414	2527	1033	1645	13
12	IVK I 2017-12 JSSP 59	1467	743	1105	859	1028	944	2644	2099	2371	1036	1473	17
13	IVK I 2017-26 KDG 123 (ZC)	1015	850	932	2642	2623	2633	2694	2933	2814	967	2126	1
14	IVK I 2017-27 BAU 13 (ZC)	1309	829	1069	1314	1404	1359	2476	2644	2560	1128	1663	11
15	IVK I 2017-28 GJG 18 (ZC)	1382	959	1171	1561	1566	1563	2725	2770	2747	934	1827	6
16	IVK I 2017-29 Raj Mungfali-2 (ZC)	1366	804	1085	2314	2351	2333	2967	2870	2919	1024	2112	2
17	IVK I 2017-30 GJG 19 (ZC)	1134	1007	1071	1905	2007	1956	2798	2519	2658	1411	1895	5
	G.M	1198	885	1042	1631	1641	1636	2584	2631	2607	1051	1762	
	S.E. Diff. Mean	55.4	53.3	54.4	245.4	170.3	211.2	255.9	160.6	213.6	120.2	176.3	
	CD at 5%	111.4	107.2	108.2	493.5	342.4	NS	NS	323.0	425.1	241.7	NS	
	CV %	6.5	8.5	7.4	21.3	14.7	18.3	14.0	8.6	11.6	16.2	14.2	

* Not included in the pooled analysis as trial conducted only for one year

Table 17c: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED Ancillary traits

S.No	Entry	Trait	Bhubaneswar			Mohanpur			Imphal			Kanke *	Pooled mean (3 Ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		
1	IVK I 2017-1 NRCG CS 589	PS	131	96	113	131	124	128	142	128	135	109	125
		D	105	109	107	111	109	110	126	128	127	118	115
		S	60	62	61	66	67	66	72	71	72	72	66
		HKW	29	29	29	40	41	40	64	63	64	63	44
		SMK	75	80	78	89	87	88	65	63	64	90	76
		O	49	48	48	55	-	55	54	52	53	-	52
		P	25	27	26	23	-	23	24	25	25	-	25
2	IVK I 2017-2 RG 622-2	PS	124	101	112	122	122	122	136	146	141	104	125
		D	108	111	110	108	110	109	125	127	126	112	115
		S	58	63	61	71	70	70	75	74	75	68	68
		HKW	31	27	29	42	41	41	86	73	80	51	50
		SMK	73	82	78	86	86	86	63	67	65	82	76
		O	47	44	46	53	-	53	51	47	49	-	49
		P	24	29	27	22	-	22	25	26	25	-	25
3	IVK I 2017-3 JSP 64	PS	115	92	104	126	124	125	132	138	135	113	121
		D	109	110	110	109	111	110	125	128	127	110	115
		S	58	62	60	70	70	70	71	72	72	69	67
		HKW	27	31	29	44	42	43	72	66	69	52	47
		SMK	73	80	77	86	85	85	64	67	66	84	76
		O	47	47	47	50	-	50	53	49	51	-	49
		P	24	28	26	24	-	24	28	27	27	-	26
4	IVK I 2017-4 NRCG CS 588	PS	127	86	107	101	118	110	144	137	141	106	119
		D	105	109	107	107	108	107	125	128	127	124	114
		S	60	63	62	69	70	69	72	72	72	73	68
		HKW	28	28	28	42	43	43	69	62	66	55	45
		SMK	75	80	78	85	86	85	64	67	66	77	76
		O	50	49	50	54	-	54	54	49	52	-	52
		P	24	27	25	24	-	24	27	26	26	-	25
5	IVK I 2017-5 K 1811	PS	115	86	100	128	126	127	140	143	142	107	123
		D	107	110	109	110	108	109	126	130	128	111	115
		S	60	62	61	71	71	71	74	75	75	69	69
		HKW	27	28	28	40	40	40	57	55	56	62	41
		SMK	76	81	79	86	86	86	68	69	69	81	78
		O	50	45	48	52	-	52	52	50	51	-	50
		P	27	29	28	28	-	28	28	26	27	-	28
6	IVK I 2017-6 NRCG CS 592	PS	127	98	112	120	121	120	146	139	142	115	125
		D	106	111	109	110	111	110	126	131	129	117	116
		S	65	64	65	67	67	67	73	73	73	68	68
		HKW	29	34	32	42	42	42	82	73	78	61	50
		SMK	80	80	80	84	84	84	67	69	68	88	77
		O	52	50	51	59	-	59	55	51	53	-	54
		P	22	26	24	22	-	22	24	26	25	-	24

S.No	Entry	Trait	Bhubaneswar			Mohanpur			Imphal			Kanke *	Pooled mean (3 Ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		
7	IVK I 2017-7 JSP 65	PS	113	97	105	126	123	124	139	141	140	121	123
		D	105	110	108	104	105	104	127	131	129	119	114
		S	66	63	65	70	70	70	75	74	75	71	70
		HKW	34	32	33	40	42	41	83	74	79	66	51
		SMK	81	80	81	86	84	85	70	70	70	84	78
		O	51	50	50	54	-	54	56	51	53	-	53
		P	24	27	25	21	-	21	22	25	24	-	23
8	IVK I 2017-8 NRCG CS 590	PS	136	92	114	101	106	103	139	144	141	121	120
		D	107	111	109	106	107	107	134	132	133	123	116
		S	63	64	64	71	71	71	74	74	74	70	69
		HKW	31	38	35	40	41	41	70	69	70	51	48
		SMK	78	84	81	86	86	86	70	70	70	78	79
		O	50	51	50	53	-	53	56	51	53	-	52
		P	26	26	26	22	-	22	23	26	24	-	24
9	IVK I 2017-9 K 1847	PS	120	97	109	107	112	109	141	128	135	110	118
		D	106	109	108	107	108	107	125	131	128	115	114
		S	73	66	70	73	72	72	72	74	73	66	72
		HKW	40	34	37	37	39	38	56	52	54	55	43
		SMK	85	82	84	88	87	87	65	70	68	74	79
		O	48	45	46	49	-	49	50	46	48	-	48
		P	27	29	28	27	-	27	27	27	27	-	27
10	IVK I 2017-10 JSSP 60	PS	119	100	110	115	114	114	138	129	134	129	119
		D	107	112	110	111	113	112	132	132	132	126	118
		S	59	66	63	71	71	71	71	71	71	68	68
		HKW	27	29	28	40	40	40	70	59	65	62	44
		SMK	75	80	78	85	85	85	65	67	66	82	76
		O	49	46	47	48	-	48	52	49	51	-	49
		P	28	29	28	24	-	24	27	26	27	-	26
11	IVK I 2017-11 NRCG CS 591	PS	119	107	113	119	119	119	145	134	139	118	124
		D	108	109	109	110	110	110	125	131	128	109	115
		S	67	63	65	70	70	70	73	72	73	66	69
		HKW	33	35	34	40	41	41	80	69	75	52	50
		SMK	82	85	84	85	86	86	71	68	70	75	80
		O	52	48	50	51	-	51	53	50	52	-	51
		P	26	27	26	22	-	22	25	26	26	-	25
12	IVK I 2017-12 JSSP 59	PS	113	87	100	114	116	115	144	139	142	132	119
		D	103	111	107	111	110	110	124	128	126	119	114
		S	70	64	67	70	71	71	72	71	72	61	70
		HKW	35	35	35	42	42	42	89	70	80	45	52
		SMK	84	86	85	87	87	87	70	66	68	82	80
		O	51	45	48	52	-	52	54	51	52	-	51
		P	23	28	26	22	-	22	25	26	25	-	24

S.No	Entry	Trait	Bhubaneswar			Mohanpur			Imphal			Kanke *	Pooled mean (3 Ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		
13	IVK I 2017-26	PS	126	78	102	122	121	121	143	138	141	115	121
	KDG 123 (ZC)	D	106	110	108	109	109	109	128	130	129	121	115
		S	59	65	62	71	71	71	74	74	74	71	69
		HKW	25	30	28	38	39	39	53	50	52	49	39
		SMK	74	81	78	88	88	88	68	70	69	93	78
		O	49	49	49	51	-	51	52	48	50	-	50
		P	26	27	26	27	-	27	27	26	27	-	27
14	IVK I 2017-27	PS	126	97	112	117	116	116	146	122	134	121	121
	BAU 13 (ZC)	D	107	111	109	109	110	109	126	129	128	118	115
		S	58	62	60	71	71	71	71	72	72	63	68
		HKW	31	30	31	42	43	43	73	69	71	60	48
		SMK	73	81	77	87	87	87	67	68	68	90	77
		O	48	47	47	51	-	51	55	50	53	-	50
		P	25	28	27	24	-	24	27	26	26	-	26
15	IVK I 2017-28	PS	119	79	99	114	112	113	144	128	136	115	116
	GJG 18 (ZC)	D	105	112	109	111	111	111	124	128	126	124	115
		S	58	63	61	70	71	70	74	73	74	61	68
		HKW	30	28	29	42	43	42	65	60	63	66	45
		SMK	74	80	77	88	88	88	69	70	70	82	78
		O	49	46	47	50	-	50	53	47	50	-	49
		P	25	29	27	25	-	25	26	27	26	-	26
16	IVK I 2017-29	PS	119	91	105	98	108	103	129	128	128	115	112
	Raj Mungfali-2 (ZC)	D	105	109	107	110	112	111	124	128	126	114	115
		S	63	63	63	71	71	71	75	75	75	65	70
		HKW	33	29	31	54	52	53	69	67	68	51	51
		SMK	78	81	80	88	87	87	72	72	72	78	80
		O	49	48	48	50	-	50	53	48	51	-	50
		P	23	28	26	22	-	22	23	26	24	-	24
17	IVK I 2017-30	PS	116	82	99	117	119	118	144	128	136	121	118
	GJG 19 (ZC)	D	106	109	108	112	110	111	125	129	127	123	115
		S	58	62	60	70	71	71	71	71	71	70	67
		HKW	29	30	30	48	48	48	61	59	60	63	46
		SMK	73	80	77	88	88	88	62	65	64	83	76
		O	49	47	48	48	-	48	53	48	51	-	49
		P	25	28	26	25	-	25	25	26	26	-	26
Final plant stand (000/ha)													
	GM		122	92	107	116	118	117	141	135	138	116	120
	S.E. Diff. Mean		5.6	26.7	19.3	7.2	5.3	6.4	5.7	4.1	5.0	8.1	12.1
	CD at 5%		11.2	NS	NS	14.6	10.7	NS	NS	8.3	9.9	NS	NS
	CV %		6.5	41.1	25.6	8.8	6.4	7.7	5.7	4.4	5.1	9.8	14.2

* Not included in the pooled analysis as trial conducted only for one year

Table 18b: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED

S.N.	Entry	Dhanwad		Raichur		Hiriyur*		Vriddhachalam		Tindivanam		Kadiri		Tirupati*		Digraj		Jagtial**		Pooled mean (6 Ctrs)	R								
		2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018										
		Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean										
1	IVK I 2017-1 NRCG CS 589	1838	2263	2050	1590	1223	1407	484	1475	980	1585	499	1042	1539	877	1208	1961	702	1332	1228	956	1092	868	1312	1090	1416	603	1355	14
2	IVK I 2017-2 RG 622-2	1767	1874	1821	1713	1296	1505	483	1315	899	1284	632	958	1703	623	1163	2296	893	1595	668	419	543	923	1246	1084	1923	714	1354	15
3	IVK I 2017-3 JSP 64	1997	1862	1930	1251	1472	1361	744	1700	1222	1653	919	1286	2258	1256	1757	2792	825	1809	1211	623	917	1015	1401	1208	1600	604	1558	11
4	IVK I 2017-4 NRCG CS 588	1862	2280	2071	1498	1007	1253	564	1571	1068	1357	503	930	1341	1033	1187	1879	1048	1464	999	573	786	1017	1719	1368	1306	625	1379	13
5	IVK I 2017-5 K 1811	3326	2763	3045	2148	2126	2137	1003	2169	1586	2534	1147	1840	1598	2106	1852	2326	1458	1892	2286	1094	1690	1148	2397	1773	3430	554	2090	1
6	IVK I 2017-6 NRCG CS 592	2593	2469	2531	1664	1249	1457	540	1393	966	2097	1212	1655	1658	959	1309	1683	965	1324	1358	558	958	1210	1758	1484	1225	676	1626	8
7	IVK I 2017-7 JSP 65	2741	2926	2834	1727	1302	1514	658	1132	895	2277	1115	1696	1504	1031	1267	1703	828	1266	1650	511	1080	1039	1572	1306	1175	985	1647	7
8	IVK I 2017-8 NRCG CS 590	2761	2385	2573	1613	1010	1311	481	1571	1026	2269	1157	1713	1482	840	1161	1709	946	1328	874	526	700	1148	1599	1374	1339	774	1577	9
9	IVK I 2017-9 K 1847	2974	2136	2555	1415	2185	1800	1170	1203	1187	1955	1289	1622	1458	1610	1534	2881	1407	2144	1779	1245	1512	1492	2293	1893	1906	657	1925	3
10	IVK I 2017-10 JSSP 60	2141	2446	2294	1158	1741	1450	829	1620	1224	1847	1152	1499	1740	1187	1464	2532	1177	1855	1135	751	943	1377	1829	1603	1869	648	1694	5
11	IVK I 2017-11 NRCG CS 591	2572	2096	2334	1287	1190	1238	547	1711	1129	2521	1024	1772	1636	1029	1333	1580	822	1201	1202	394	798	993	1474	1234	1292	803	1519	12
12	IVK I 2017-12 JSSP 59	2780	2324	2552	1497	1005	1251	549	1518	1034	1962	978	1470	1778	1084	1431	1920	1132	1526	1382	658	1020	968	1439	1204	1269	657	1572	10
13	IVK I 2017-25 KDG 128 (ZC)	2302	2839	2570	1795	1939	1867	730	2723	1726	2186	1213	1700	2054	2092	2073	1973	1270	1622	2168	1025	1596	916	1670	1293	2005	840	1854	4
14	IVK I 2017-26 KDG 123 (ZC)	3170	2786	2978	2183	1825	2004	1197	2512	1855	2406	1282	1844	1400	1713	1556	2520	1713	2117	2210	1063	1636	1507	2448	1977	2706	634	2079	2
15	IVK I 2017-31 GG 16 (ZC)	2133	2424	2279	1523	1610	1566	763	1841	1302	1698	1086	1392	1735	1100	1417	2384	1473	1929	1116	680	898	1180	1816	1498	1988	765	1680	6
	G.M	2464	2392	2428	1604	1479	1541	716	1697	1207	1975	1014	1495	1659	1236	1447	2143	1111	1627	1418	738	1078	1120	1732	1426	1763	703	1661	
	S.E. Diff. Mean	262.1	206.6	236.0	124.2	111.8	118.1	107.6	327.4	243.6	247.7	115.0	193.1	89.9	46.2	71.5	198.7	64.0	147.6	294.3	171.3	240.8	104.5	138.5	122.7	173.3	44.3	157.5	
	CD at 5%	529.0	417.5	471.7	250.7	225.9	236.2	217.2	661.6	487.1	499.9	232.3	385.9	181.4	93.4	142.8	401.5	129.4	295.1	594.0	346.2	481.3	210.9	279.9	245.3	349.7	89.5	308.7	
	CV %	15.0	12.2	13.8	11.0	10.7	10.8	21.3	27.3	28.5	17.7	16.0	18.3	7.7	5.3	7.0	13.1	8.2	12.8	29.4	32.8	31.6	13.2	11.3	12.2	13.9	8.9	13.4	

* Not included in the pooled analysis due to high CV %

** Not included in the pooled analysis as trial conducted only for one year

Table 18c: INITIAL VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED Ancillary traits

S.N	Entry	Trait	Dharwad		Raichur		Hiriyur *		Vriddhachalam		Tindivanam		Kadiri		Tirupati *		Digraj		Jagtial **		Palem **		Pooled mean (6 Ctrs)			
			2017	2018	2017	2018	Mean	2017	2018	Mea	2017	2018	Mea	2017	2018	Mea	2017	2018	Mea	2017	2018	2017		2018		
1	IVK I 2017-1 NRCG CS 589	PS	125	97	111	151	154	152	105	122	114	203	123	163	146	117	131	146	140	143	143	129	184	141		
		D	-	119	119	110	111	111	114	127	121	118	125	122	113	134	124	111	120	116	113	123	118	112	118	
		S	72	71	71	70	69	69	69	70	65	67	62	63	63	66	64	65	72	67	69	66	66	62	67	
		HKW	56	54	55	47	40	43	43	43	45	43	44	44	44	62	49	55	46	33	40	45	32	39	63	46
		SMK	96	93	94	90	92	91	87	86	87	82	81	93	92	86	91	89	84	91	89	84	92	91	80	90
		O	52	48	50	50	51	51	51	54	54	54	52	49	50	-	52	48	50	52	50	51	54	49	51	
		P	26	27	27	26	26	26	25	25	26	25	26	-	26	25	-	-	26	26	24	24	28	26		
2	IVK I 2017-2 RG 622-2	PS	117	105	111	151	157	154	83	112	97	165	165	165	141	117	129	144	135	140	138	136	186	139		
		D	-	120	120	111	113	112	118	128	123	118	130	124	113	134	124	111	122	117	113	123	118	118	119	
		S	74	69	72	68	65	67	72	61	66	65	62	64	67	62	65	72	63	68	70	53	62	68	67	
		HKW	52	52	52	45	36	40	40	38	39	47	47	47	47	66	44	55	51	32	41	41	32	37	24	31
		SMK	97	92	94	92	89	90	87	84	85	80	81	81	81	73	95	84	89	89	89	82	90	86	92	89
		O	47	45	46	49	47	48	-	50	50	49	48	48	48	50	48	49	-	-	-	49	47	48	47	48
		P	25	29	27	25	28	26	-	27	27	26	26	27	26	26	-	-	-	23	26	25	23	29	26	
3	IVK I 2017-3 JSP 64	PS	114	103	109	152	156	154	104	114	109	169	170	170	144	122	133	141	134	138	140	130	186	140		
		D	-	119	119	113	89	101	117	126	121	126	123	123	113	134	124	111	122	118	113	123	118	122	122	
		S	73	71	72	66	63	64	66	64	65	65	62	64	72	60	66	69	63	66	63	66	66	54	67	
		HKW	46	48	47	42	36	39	41	44	44	44	44	43	64	37	50	50	32	41	46	34	40	28	33	
		SMK	96	93	94	92	86	89	93	86	89	81	83	82	82	92	99	95	86	89	88	82	86	84	88	91
		O	50	48	49	47	46	46	-	49	49	51	47	49	49	50	47	48	-	-	-	50	47	48	51	49
		P	27	28	27	27	29	28	-	27	25	26	25	29	26	28	-	-	-	27	27	25	29	27		
4	IVK I 2017-4 NRCG CS 588	PS	135	95	115	150	151	151	104	105	105	195	95	145	143	123	133	143	129	136	143	130	182	137		
		D	-	118	118	107	110	108	116	127	121	115	130	123	113	134	124	118	122	120	113	123	118	120	124	
		S	72	73	73	65	66	65	69	67	68	65	64	65	67	64	65	67	72	67	70	69	60	65	68	
		HKW	48	51	49	49	39	44	43	47	45	49	48	49	61	47	54	48	31	39	42	32	37	37	41	
		SMK	96	96	96	94	90	92	82	79	81	78	82	80	80	97	91	94	87	88	88	84	83	84	91	
		O	51	48	50	51	50	51	-	52	52	53	48	50	53	50	52	-	-	-	-	52	47	50	50	
		P	24	27	26	25	26	26	-	26	27	25	26	26	24	25	-	-	-	25	26	23	28	25		
5	IVK I 2017-5 K 1811	PS	122	109	115	150	155	153	107	113	110	173	106	139	114	113	114	142	133	138	143	136	184	133		
		D	-	117	117	109	110	110	113	129	121	115	132	124	115	133	124	118	123	121	113	123	118	119	119	
		S	76	71	73	68	68	68	68	71	69	69	67	68	72	72	72	73	71	72	71	67	65	66	68	
		HKW	44	40	42	40	36	38	39	46	42	39	35	37	54	45	45	49	42	28	35	36	32	34	29	
		SMK	96	90	93	91	79	85	86	76	81	81	80	80	96	91	93	91	88	90	88	90	92	91	85	
		O	50	49	50	49	48	49	-	56	56	52	47	49	52	52	52	-	-	-	-	52	47	50	51	
		P	29	26	28	28	27	27	-	24	27	26	26	28	25	26	-	-	-	-	29	26	28	27		

S.N	Entry	Trait	Dharwad		Raichur		Hiriyur *		Vridhachalam		Tindivanam		Kadiri		Tirupati *		Digraj		Jagtial **		Pooled mean (6 Ctrs)										
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		2017	2018								
6	IVK I 2017-6 NRCG CS 592	PS	140	93	116	150	143	147	112	110	111	203	202	203	145	115	130	144	127	136	112	84	98	142	141	142	127	184			
			-	120	120	104	106	105	115	127	121	115	120	113	134	124	113	123	118	118	126	113	123	118	118	126	122	98	113		
			76	72	74	70	65	68	71	68	69	70	69	69	69	68	69	68	71	70	67	69	67	69	68	69	68	65	52	70	
			54	58	56	52	37	44	47	53	50	53	47	50	61	50	56	61	39	50	48	36	42	41	42	42	42	44	56	50	
			96	98	97	94	93	93	88	90	89	92	91	92	94	99	96	93	95	94	86	93	90	92	90	92	92	92	94	85	94
			51	49	50	51	51	51	56	56	56	54	50	52	53	52	52	52	52	50	52	50	51	53	53	53	53	53	55	49	52
25	27	26	26	26	26	-	23	23	25	24	25	24	25	26	24	25	-	24	26	25	24	26	25	23	25	24	25	28	25		
7	IVK I 2017-7 JSP 65	PS	119	103	111	151	152	151	111	102	107	199	187	193	143	127	135	143	143	104	104	128	78	103	140	143	142	133	186	139	
			-	118	118	113	114	113	114	125	119	116	126	121	113	134	124	113	134	124	120	113	113	123	118	119	122	120	97	118	119
			77	73	75	71	72	71	74	64	69	71	69	70	69	70	70	70	73	69	71	70	69	70	73	71	72	71	65	72	71
			63	62	63	53	36	45	43	57	50	52	51	51	51	61	57	59	56	40	48	48	49	35	42	36	38	37	42	53	50
			99	97	98	94	95	94	92	89	90	89	91	90	97	98	97	93	95	94	89	90	89	90	90	91	92	91	94	75	94
			50	48	49	50	51	50	-	54	54	53	50	51	50	51	52	51	51	-	-	-	52	50	51	53	51	52	53	49	51
25	28	26	26	26	26	-	24	24	26	25	25	25	26	25	25	25	-	25	25	25	25	25	25	29	26	27	25	28	26		
8	IVK I 2017-8 NRCG CS 590	PS	134	97	116	149	151	150	97	109	103	191	195	193	145	116	131	142	129	136	98	80	89	140	143	141	132	182	144		
			-	118	118	113	112	112	118	127	122	116	126	121	113	134	124	113	142	117	122	120	113	123	118	119	122	121	98	113	119
			76	74	75	70	65	68	69	69	69	72	68	70	71	73	72	74	72	69	71	71	71	66	69	76	70	73	71	59	72
			57	64	60	55	41	48	50	53	51	54	53	53	60	56	58	58	56	41	48	51	37	44	35	48	42	44	59	52	
			98	99	98	94	92	93	92	85	89	94	93	94	93	94	97	100	99	95	96	96	89	92	91	94	93	93	94	90	95
			51	48	49	50	51	51	-	54	54	53	50	51	55	51	55	51	53	-	-	-	53	50	51	54	53	53	53	50	52
25	28	26	27	25	26	-	24	24	26	25	25	25	26	24	25	25	-	-	-	24	26	25	20	25	23	25	27	25			
9	IVK I 2017-9 K 1847	PS	134	110	122	149	152	151	123	96	109	175	151	163	145	123	134	142	130	136	133	104	119	141	136	139	132	182	141		
			-	116	116	113	114	113	115	129	122	115	130	123	113	133	123	123	116	125	121	113	113	123	118	114	122	118	100	112	119
			78	73	75	72	69	70	73	68	71	73	69	71	72	71	72	71	72	72	74	74	74	70	72	74	72	73	72	68	73
			49	44	47	50	37	43	49	46	47	44	46	45	45	53	38	45	47	34	40	44	44	37	41	28	32	30	37	59	42
			98	94	96	93	95	94	90	78	84	85	88	87	98	100	99	99	92	87	90	91	91	91	89	92	90	90	93	80	92
			47	46	47	47	46	46	-	50	50	50	50	48	48	48	47	47	47	-	-	-	49	44	47	48	47	47	47	50	47
27	28	27	28	28	28	-	26	26	27	26	27	26	27	28	26	27	-	-	-	28	28	28	25	28	27	27	29	27			
10	IVK I 2017-10 JSSP 60	PS	139	103	121	151	154	152	121	104	112	177	180	178	145	120	133	144	132	138	117	87	102	141	141	141	137	187	144		
			-	120	120	104	107	106	114	129	121	116	130	123	116	133	125	117	125	117	125	121	113	123	118	117	122	120	103	119	119
			73	69	71	67	66	67	71	66	68	65	65	65	65	66	64	65	70	66	68	68	58	63	69	65	67	67	56	67	
			48	49	48	51	37	44	44	44	44	46	46	44	45	58	53	56	44	34	39	45	35	40	31	29	30	38	48	44	
			97	95	96	95	95	95	88	79	84	89	90	89	90	97	96	96	85	90	88	87	90	89	92	89	90	92	65	92	
			49	48	48	48	47	48	-	51	51	50	46	48	48	49	49	49	49	-	-	-	50	46	48	47	47	47	53	48	
26	27	27	27	28	27	-	27	27	27	27	27	26	27	27	25	26	-	-	-	26	28	27	24	28	26	25	29	27			

S.N	Entry	Trait	Dharwad		Raichur		Hiriyur *		Vridhdachalam		Tindivanam		Kadiri		Tirupati *		Digraj		Jagtial **		Pooled mean (6 Ctrs)								
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		2017	2018						
11	IVK I 2017-11	PS	138	104	121	148	152	150	89	105	97	216	164	190	145	134	139	134	127	131	126	72	99	140	133	137	138	182	145
	NRCG CS 591	D	-	117	117	113	113	113	117	126	121	118	128	123	113	133	123	119	125	122	113	123	118	114	123	119	98	119	119
		S	78	73	75	67	68	67	70	68	69	71	69	70	71	72	71	73	71	72	73	65	69	73	69	71	68	64	71
		HKW	61	64	62	53	35	44	47	51	49	52	53	52	60	52	56	53	39	46	50	37	44	32	35	34	40	51	49
		SMK	98	99	98	96	90	93	89	80	84	92	89	90	96	99	97	92	96	94	89	90	90	93	90	91	94	75	94
		O	50	48	49	50	51	50	-	53	53	51	52	51	54	52	53	-	-	-	52	50	51	52	54	53	56	49	51
		P	25	28	26	26	26	26	-	25	25	24	25	24	26	24	25	-	-	-	25	26	26	21	25	23	23	28	25
12	IVK I 2017-12	PS	132	115	124	150	154	152	94	99	96	189	170	180	145	119	132	132	129	131	112	79	96	141	137	139	126	186	143
	JSSP 59	D	-	117	117	118	117	118	115	125	120	118	128	123	113	134	124	118	123	121	113	123	118	121	124	122	99	112	121
		S	76	72	74	72	71	71	68	69	68	70	69	69	70	72	71	74	69	71	72	67	70	69	64	66	70	57	71
		HKW	63	67	65	52	40	46	45	54	49	52	50	51	63	48	55	57	38	48	49	36	43	33	37	35	42	52	50
		SMK	98	96	97	94	95	94	88	84	86	92	90	91	94	99	96	95	92	94	90	93	92	92	92	92	94	85	94
		O	51	49	50	50	52	51	-	55	55	52	52	52	54	52	53	-	-	-	52	49	51	51	54	53	55	49	52
		P	26	28	27	26	26	26	-	24	24	25	24	25	26	24	25	-	-	-	24	26	25	20	24	22	23	28	25
13	IVK I 2017-25	PS	123	121	122	151	154	153	98	125	111	143	201	172	145	115	130	114	133	124	123	95	109	138	138	138	132	182	140
	KDG 128 (ZC)	D	-	118	118	119	116	118	116	126	121	116	125	121	115	134	125	119	120	120	113	123	118	122	123	122	104	110	120
		S	74	71	72	68	67	67	65	71	68	66	65	65	74	71	73	73	72	73	69	61	65	69	66	68	67	67	70
		HKW	42	40	41	47	37	42	37	45	41	37	39	38	43	46	44	39	29	34	38	31	35	28	31	29	33	38	38
		SMK	98	95	96	93	88	91	84	75	80	82	77	79	95	98	97	92	86	89	89	87	88	88	90	89	93	80	90
		O	50	49	50	49	49	49	-	54	54	51	47	49	51	51	51	-	-	-	51	47	49	50	52	51	53	46	50
		P	29	27	28	29	27	28	-	25	25	27	26	26	27	25	26	-	-	-	29	27	28	27	26	26	28	27	27
14	IVK I 2017-26	PS	130	100	115	150	147	149	110	123	116	181	191	186	134	114	124	141	126	134	129	99	114	139	134	137	133	175	141
	KDG 123 (ZC)	D	-	120	120	111	111	111	116	125	120	115	128	122	115	134	125	122	122	122	113	123	118	118	124	121	104	118	120
		S	75	72	74	71	67	69	71	70	70	69	64	67	51	70	60	74	71	73	71	65	68	70	69	69	67	63	69
		HKW	45	42	43	42	37	39	40	45	42	37	40	38	46	40	43	42	29	36	40	31	36	32	32	32	32	41	39
		SMK	98	94	96	93	91	92	89	76	83	85	76	80	95	100	97	91	88	90	85	87	86	94	91	93	94	85	91
		O	50	50	50	49	48	49	-	54	54	51	49	50	52	51	51	-	-	-	51	47	49	52	52	52	48	50	
		P	29	27	28	30	27	28	-	24	24	29	25	27	28	25	26	-	-	-	29	27	28	27	26	26	27	27	27
15	IVK I 2017-31	PS	134	102	118	150	155	152	106	108	107	192	194	193	145	115	130	137	132	135	133	97	115	138	138	138	139	178	144
	GG 16 (ZC)	D	-	118	118	109	112	110	114	125	120	118	125	122	116	134	125	121	120	121	113	123	118	118	121	120	104	118	119
		S	74	71	72	68	70	69	73	67	70	65	63	64	73	64	69	71	66	69	69	59	64	71	69	70	68	53	69
		HKW	55	55	55	55	40	47	47	45	46	53	53	53	62	58	60	55	37	46	53	39	46	29	40	35	44	48	49
		SMK	98	96	97	94	93	93	88	75	82	88	89	89	89	98	93	87	92	90	87	79	83	92	90	91	91	60	92
		O	50	47	49	48	50	49	-	51	51	50	46	48	50	48	49	-	-	-	50	46	48	49	50	50	52	48	49
		P	27	28	27	27	26	27	-	26	26	26	27	26	25	26	25	-	-	-	27	28	27	24	27	26	27	28	26
	Final plant stand (000/ha)																												
	GM		129	104	116	150	153	151	104	110	107	185	166	175	142	119	131	139	127	133	118	88	103	141	138	140	133	183	141
	S.E. Diff. Mean		9.1	8.6	8.9	1.1	4.2	3.1	12.6	8.1	10.6	17.0	14.3	15.7	4.2	5.6	4.9	4.2	3.8	4.0	10.9	12.4	11.7	2.3	7.2	3.8	6.5	5.9	8.2
	CD at 5%		NS	NS	17.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	CV %		10.0	11.8	10.8	1.1	3.9	2.9	17.1	10.5	14.1	13.0	12.2	12.7	4.2	6.6	5.3	4.5	4.7	4.3	13.1	19.9	16.1	2.3	7.4	5.4	6.9	4.5	8.1

* Not included in the pooled analysis due to high CV %

** Not included in the pooled analysis as trial conducted only for one year

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

This trial which comprised six test genotypes and four check varieties was allotted to five centres and all of them have reported the data. The Coefficient of variation (CV%) was about 13% for pod and kernel yield and the CV% was well within the limits at all locations. The centre-wise results are presented below (**Tables 19a through 19c**).

Ludhiana

The mean pod and kernel yield levels in this location over two years were very moderate (2097 kg/ha and 1461 kg/ha respectively). The check variety, Mallika was the best for pod (2229 kg/ha) and kernel (1557 kg/ha) yield. The test genotype, K 1924 out yielded best check both for pod (3250 kg/ha) and kernel (2263 kg/ha) yield.

Shirgaon

The mean pod (2770 kg/ha) and kernel (2036 kg/ha) yield levels over the two test years in this location were high. Over the two test years, the zonal check variety, BAU 13 was the best among check varieties with a pod and kernel yield of 3194 kg/ha and 2308 kg/ha respectively. Over this best check none of the test genotypes could surpass significantly for pod and kernel yield. Among the test genotypes, ICGV 06189 was the best for pod (3489 kg/ha) and kernel (2570 kg/ha) yield.

Dharwad

The mean pod and kernel yield levels in this location over two years were very high (2780 kg/ha and 2001 kg/ha). The check variety, BAU 13 was the best for pod (2985 kg/ha) and kernel (2188 kg/ha) yield. Over this best check none of the test genotypes could surpass significantly for pod and kernel yield. Among the test genotypes, ICGV 06189 was the best for pod (3312 kg/ha) and kernel (2464 kg/ha) yield.

Junagadh

Over two years the mean pod (2299 kg/ha) and kernel (1620 kg/ha) yield levels in this location were moderate. Over two years there was no significant difference between the checks and test genotypes for pod as well as kernel yield. Hence true genetic worth of these genotypes could not be ascertained. The check variety, Mallika was the best for pod (2297 kg/ha) and kernel yield (1534 kg/ha). Among the check varieties, Mallika was the best for pod (2547 kg/ha) and for kernel (1796 kg/ha) yield. Among the test genotypes, K 2064 recorded a high pod and kernel yield of 2536 kg/ha and 1802 kg/ha respectively.

Rahuri

Over two years the mean pod (2742 kg/ha) and kernel (1745 kg/ha) yield levels in this location were high. Over two years there was no significant difference between the checks and test genotypes for pod as well as kernel yield. Hence true genetic worth of these genotypes could not be ascertained. Among the check varieties, GJG HPS 1 was the best for pod (3030 kg/ha) and for kernel (1860 kg/ha) yield. Among the test genotypes, K 1574 was the best for pod (3297 kg/ha) and kernel (2208 kg/ha) yield.

Mean performances over locations

Over two years the mean pod (2538 kg/ha) and kernel (1773 kg/ha) yield levels **over five locations** were moderate. Across five test locations and over two years, the check variety BAU 13 was the best check for pod and kernel yield (2536 and 1754 kg/ha) respectively. Over this best check none of the test genotype could surpass significantly for pod and kernel yield.

Among the test genotypes, K 1574 was the best for pod (2825 kg/ha) and kernel (1994 kg/ha) yield followed by ICGV 06189 with pod and kernel yield of 2768kg/ha and 1960 kg/ha respectively. Both these genotypes recorded 10% higher kernel yield over the best check BAU 13.

Ancillary observation

The plant stand was low during both the years at all centres except Rahuri. The test genotypes and check varieties matured around 119 days. Shelling outturn ranged from 68% in JSSP-LS-58 to 72% in TKG 19A. The seed size ranged from 46g/100 kernels (TKG 19A) to 68 g/100 kernels (JSSP LS- 58). Seed size in the two genotypes which had 10% higher kernel yields over the best check were 61g/100 kernels in ICGV 06189 and 57g/100 kernels in K 1574. The reasons observed were year-year variation for seed size at different locations. The oil content was in the range of 47% (K 2066) to 51% (K 1924, BAU 13) in all the genotypes. The protein content was in the range of 26%-27% in all the genotypes.

Conclusion

Among the test genotypes, K 1574 and ICGV 06189 which recorded 10% higher kernel yield over the best check BAU 13 deserves promotion to ALSVT.

Table 19a : LARGE SEEDED VARIETAL TRIAL (LSVT) STAGE I (KH 2017) and STAGE II (KH 2018) POOLED
Pod yield (kg/ha)

S.N.	Entry	Ludhiana			Shirgaon			Dharwad			Junagadh			Rahuri			Pooled mean	R
		2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		
1	LSVT-I-2017-1 K 2066	2992	1400	2196	2194	2585	2390	2993	2675	2834	2326	2406	2366	2920	2862	2891	2535	5
2	LSVT-I-2017-2 JSSP-LS-58	2621	2069	2345	1968	2674	2321	2879	2554	2717	2430	2274	2352	2321	2703	2512	2449	8
3	LSVT-I-2017-3 K 1924	2750	3749	3250	2318	3466	2892	1539	2275	1907	2402	1855	2128	2724	2772	2748	2585	3
4	LSVT-I-2017-4 ICGV 06189	2073	2571	2322	1987	4991	3489	3263	3360	3312	2149	2311	2230	2354	2622	2488	2768	2
5	LSVT-I-2017-5 K 2064	2304	1160	1732	1808	3194	2501	2466	3315	2890	2741	2332	2536	2824	2743	2784	2489	6
6	LSVT-I-2017-6 K 1574	3012	1852	2432	1406	4826	3116	2656	2980	2818	2447	2481	2464	3336	3259	3297	2825	1
7	LSVT-I-2017-7 BAU 13 (Check-1)	2225	1023	1624	2227	4162	3194	2937	3033	2985	2386	2024	2205	2676	2666	2671	2536	4
8	LSVT-I-2017-8 GJG (HPS)-1 (Check-2)	1969	1136	1553	1685	3701	2693	2428	3085	2757	2521	2104	2312	2923	3137	3030	2469	7
9	LSVT-I-2017-9 TKG 19A (Check-3)	804	1771	1287	1621	3965	2793	2586	2805	2696	1777	1927	1852	2711	2766	2739	2273	10
10	LSVT-I-2017-11 Mallika (Check-4)	2345	2114	2229	1617	3007	2312	2869	2906	2888	2533	2561	2547	2085	2436	2260	2447	9
	G.M	2309	1885	2097	1883	3657	2770	2662	2899	2780	2371	2228	2299	2687	2797	2742	2538	
	S.E. Diff. Mean	268.7	22.4	217.5	180.5	284.6	238.3	322.0	213.2	273.0	176.9	198.5	188.0	223.2	278.6	238.7	232.8	
	CD at 5%	551.4	46.1	438.3	370.3	584.0	480.2	660.7	437.5	550.2	363.0	407.4	NS	458.0	NS	NS	456.3	
	CV %	16.5	11.2	14.7	13.6	11.0	12.2	17.1	10.4	13.9	10.6	12.6	11.6	11.7	12.8	12.3	13.0	

Table 19b : LARGE SEEDED VARIETAL TRIAL (LSVT) STAGE I (KH 2017) and STAGE II (KH 2018) POOLED
Kernel yield (kg/ha)

S.N.	Entry	Kernel yield (kg/ha)												Pooled mean	R			
		Ludhiana			Shirgaon			Dharwad			Junagadh					Rahuri		
		2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean			2017	2018	Mean
1	LSVT-I-2017-1 K 2066	2107	938	1523	1624	1968	1796	2193	1852	2023	2193	1589	1755	1672	1849	1863	1775	3
2	LSVT-I-2017-2 JSSP-LS-58	1818	1414	1616	1379	1978	1678	2049	1704	1877	2049	1620	1662	1641	1685	1553	1673	9
3	LSVT-I-2017-3 K 1924	1895	2629	2262	1739	2538	2138	1107	1614	1360	1107	1595	1351	1473	1702	1636	1774	4
4	LSVT-I-2017-4 ICGV 06189	1409	1798	1604	1394	3747	2570	2443	2486	2464	2443	1548	1751	1650	1586	1514	1960	2
5	LSVT-I-2017-5 K 2064	1661	759	1210	1283	2354	1819	1835	2286	2060	1835	1905	1699	1802	1912	1934	1765	5
6	LSVT-I-2017-6 K 1574	2099	1283	1691	1114	3554	2334	1984	2040	2012	1984	1643	1807	1725	2177	2208	1994	1
7	LSVT-I-2017-7 BAU 13 (Check-1)	1553	686	1119	1527	3089	2308	2209	2167	2188	2209	1548	1480	1514	1654	1641	1754	6
8	LSVT-I-2017-8 GJG (HPS)-1 (Check-2)	1377	818	1098	1180	2683	1931	1818	2223	2021	1818	1589	1552	1570	1924	1860	1696	8
9	LSVT-I-2017-9 TKG 19A (Check-3)	567	1295	931	1151	3015	2083	1965	2013	1989	1965	1276	1432	1354	1828	1812	1634	10
10	LSVT-I-2017-11 Mallika (Check-4)	1617	1496	1557	1132	2281	1706	2108	1932	2020	2108	1724	1868	1796	1548	1428	1701	7
	G.M	1610	1312	1461	1352	2721	2036	1971	2032	2001	1971	1604	1636	1620	1787	1745	1773	
	S.E. Diff. Mean	202.1	110.0	162.7	134.5	221.8	183.4	246.3	153.8	205.3	246.3	120.8	147.2	134.6	153.4	160.7	171.0	
	CD at 5%	414.7	225.6	327.8	275.9	455.2	369.6	505.5	315.5	413.7	505.5	248.0	302.0	NS	314.7	NS	335.2	
	CV %	17.7	11.9	15.8	14.1	11.5	12.7	17.7	10.7	14.5	17.7	10.7	12.7	11.8	12.1	13.0	13.7	

Table 19c : LARGE SEEDED VARIETAL TRIAL (LSVT) STAGE I (KH 2017) and STAGE II (KH 2018) POOLED Ancillary traits

S.N.	Entry	Trait	Ludhiana			Shirgaon			Dharwad			Junagadh			Rahuri			Pooled mean	
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		
1	LSVT-I-2017-1 K 2066	PS	115	139	127	139	128	134	115	99	107	145	141	143	284	278	281	158	
		D	116	121	118	95	125	110	-	121	121	120	110	115	120	123	122	117	
		S	70	67	69	74	76	75	73	69	71	68	73	71	65	65	65	65	70
		HKW	46	47	46	60	47	54	56	53	55	44	61	61	53	58	58	58	53
		SMK	82	64	73	84	61	72	99	94	96	99	97	97	98	95	96	96	87
		O	51	49	50	48	46	47	45	44	45	50	50	47	48	47	-	47	47
		P	27	-	27	29	28	28	26	30	25	28	26	27	-	27	27	27	
2	LSVT-I-2017-2 JSSP-LS-58	PS	110	137	123	137	137	137	120	102	111	147	147	147	283	278	281	160	
		D	121	123	122	93	126	110	-	121	121	119	119	115	123	126	125	118	
		S	69	68	69	70	74	72	71	67	69	67	73	70	61	62	62	68	
		HKW	70	84	77	92	39	65	75	72	73	59	70	65	60	61	61	61	68
		SMK	79	74	77	83	76	79	96	98	97	87	94	90	90	94	95	95	88
		O	51	49	50	51	48	49	47	47	47	50	51	51	50	48	-	48	49
		P	27	-	27	29	28	25	28	26	25	27	26	24	-	24	26		
3	LSVT-I-2017-3 K 1924	PS	93	141	117	140	132	136	126	97	112	147	143	145	283	273	278	158	
		D	123	117	120	97	125	111	-	119	119	119	110	115	120	123	122	117	
		S	69	70	70	75	73	74	72	71	71	66	73	70	58	62	60	69	
		HKW	54	58	56	58	44	51	56	54	55	42	53	48	41	42	42	50	
		SMK	87	93	90	82	65	73	98	97	97	97	93	95	95	95	96	96	90
		O	53	48	51	51	50	50	51	49	50	53	51	51	52	50	-	50	51
		P	28	-	28	30	28	27	28	27	25	26	26	25	-	25	27		
4	LSVT-I-2017-4 ICGV 06189	PS	69	139	104	132	118	125	114	92	103	147	147	147	283	275	279	152	
		D	119	125	122	83	125	104	-	119	119	119	108	114	123	126	125	117	
		S	68	70	69	70	75	73	75	74	74	72	76	74	61	61	61	70	
		HKW	57	68	63	68	38	53	71	73	72	55	69	62	54	56	55	61	
		SMK	80	86	83	81	64	73	98	96	97	94	98	96	96	95	96	96	89
		O	53	52	52	50	48	49	48	48	48	51	49	49	50	49	-	49	50
		P	28	-	28	30	28	26	27	27	27	27	27	25	-	25	27		
5	LSVT-I-2017-5 K 2064	PS	105	136	120	134	135	135	109	105	107	147	145	146	286	273	280	157	
		D	116	123	119	96	125	111	-	121	121	118	111	115	84	117	101	113	
		S	72	65	69	71	74	72	74	69	72	70	73	71	69	70	70	71	
		HKW	45	39	42	50	40	45	56	53	55	46	59	52	59	58	59	50	
		SMK	78	63	71	83	70	76	98	97	98	96	96	97	96	94	94	94	87
		O	52	49	51	49	44	47	46	45	46	51	49	49	50	49	-	49	48
		P	27	-	27	30	29	26	27	27	25	27	26	27	-	27	27		

S.N.	Entry	Trait	Ludhiana			Shirgaon			Dharwad			Junagadh			Rahuri			Pooled mean	
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		
6	LSVT-I-2017-6 K 1574	PS	113	144	129	139	116	127	108	112	110	147	142	145	294	286	290	160	
		D	124	129	127	96	123	110	-	120	120	120	121	111	116	125	125	119	
		S	70	69	70	79	74	76	75	68	72	72	67	73	70	67	67	67	71
		HKW	49	62	55	80	50	65	61	54	57	54	44	62	53	54	55	55	57
		SMK	88	77	82	83	73	78	99	95	97	97	92	93	93	95	95	95	89
		O	52	50	51	49	46	47	46	46	46	46	51	49	50	49	-	49	49
		P	27	-	27	30	27	29	26	29	28	24	27	25	-	27	27	27	
7	LSVT-I-2017-7 BAU 13 (Check-1)	PS	98	133	116	139	128	133	136	110	123	147	142	145	293	288	290	161	
		D	120	119	120	93	125	109	-	121	121	121	121	110	116	126	128	127	118
		S	70	67	68	69	74	72	75	72	73	73	65	73	69	61	62	62	69
		HKW	47	52	50	47	38	43	50	56	53	53	44	56	50	41	42	42	47
		SMK	86	57	71	82	74	78	98	94	96	96	95	94	94	93	95	94	87
		O	53	48	51	52	50	51	50	46	48	48	51	52	51	52	-	52	51
		P	28	-	28	30	27	28	26	27	26	26	26	26	-	26	27	27	
8	LSVT-I-2017-8 GJG (HPS)-1 (Check-2)	PS	88	134	111	142	118	130	120	106	113	147	147	147	284	279	281	156	
		D	119	131	125	92	125	109	-	122	122	122	121	109	115	123	129	126	119
		S	70	72	71	70	73	71	75	72	72	73	63	74	68	62	62	62	69
		HKW	53	64	59	50	39	45	64	67	66	66	40	64	52	49	48	49	54
		SMK	85	77	81	84	76	80	98	94	96	96	94	88	91	90	93	92	88
		O	52	48	50	51	48	49	50	48	49	49	50	50	50	50	-	50	50
		P	29	-	29	31	27	29	28	27	26	27	26	25	-	25	27	27	
9	LSVT-I-2017-9 TKG 19A (Check-3)	PS	45	133	89	130	110	120	129	109	119	147	146	147	292	286	289	153	
		D	124	124	124	92	126	109	-	122	122	118	109	114	118	123	121	118	
		S	71	73	72	71	76	74	76	72	72	74	72	74	73	66	66	66	72
		HKW	44	52	48	41	43	42	48	47	48	48	38	51	44	46	47	47	46
		SMK	83	74	78	84	81	83	96	93	95	95	93	90	91	93	93	93	88
		O	50	49	50	50	47	48	50	47	48	48	52	50	51	51	-	51	50
		P	28	-	28	30	27	28	28	28	25	27	26	25	-	25	27	27	
10	LSVT-I-2017-11 Mallika (Check-4)	PS	81	133	107	135	106	121	121	111	116	147	147	147	273	275	274	153	
		D	124	121	123	95	125	110	-	122	122	122	119	108	114	120	124	122	118
		S	69	71	70	70	76	73	73	66	70	70	68	73	70	63	64	64	69
		HKW	58	78	68	60	40	50	71	73	72	72	57	68	63	57	59	58	62
		SMK	84	78	81	85	79	82	96	97	96	96	92	92	93	94	93	94	89
		O	52	49	50	50	47	49	49	46	48	48	51	51	51	49	-	49	49
		P	28	-	28	29	27	28	25	27	26	26	26	23	-	23	26	26	
Final plant stand (000/ha)																			
	GM		92	137	114	136	123	130	120	104	147	145	146	285	279	282	157		
	S.E. Diff. Mean		5.0	4.2	4.6	2.6	5.9	4.5	9.4	7.9	0.6	2.5	1.8	6.8	5.3	6.1	5.6		
	CD at 5%		10.2	NS	9.3	5.4	12.0	9.1	NS	NS	NS	NS	NS	NS	NS	NS	11.0		
	CV %		7.6	4.4	5.7	2.7	6.7	4.9	11.1	10.8	0.5	2.5	1.8	3.4	2.7	3.1	5.1		

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

Zone IV

There were four centres, Bhubaneswar Mohanpur, and Imphal in this zone. There were two entries GNH 804 and Dh 256. 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 within limits in this zone for both for pod (9%) 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 2000 kg of pod and 1257 kg of kernel per ha. Among the checks, R 2001-2 (ZC) was the best (2222 kg of pod and 1467 kg of kernel per ha) and surpassed all the test entries and other checks for both the pod and kernel yield. Among the test genotypes, GNH 804 was the best for pod (2167 kg/ha) and kernel (1333 kg/ha) yields.

Mohanpur

In this location, the mean pod and kernel yields of the genotypes were high (3058 kg/ha and 2257 kg/ha respectively). Among the checks, R 2001-2 (ZC) was the best (2974 kg of pod and 2240 kg of kernel per ha). Both the test entries, Dh 256 (4219 kg of pod; 3071 kg of kernel per ha) and GNH 804 (3507 kg of pod; 2578 kg of kernel per ha) significantly out-yielded the best check for both pod and kernel yield.

Imphal

In this location, the mean pod and kernel yields of the genotypes were high (2555 kg/ha and 1826 kg/ha respectively). Among the check varieties, R 2001-2 (ZC) was the best for pod (3316 kg/ha) and kernel (2319 kg/ha) yield and surpassed all the test entries and other checks for both the pod and kernel yield. Among the test genotypes, Dh 256 was the best for pod (3136 kg/ha) and kernel (2247 kg/ha) yields.

Zonal Mean Performances

In this zone, the mean pod and kernel yields of the genotypes were high (2537 kg/ha and 1780 kg/ha respectively). Across the three locations, the zonal check variety, R 2001-2 was the best for pod (2837 kg/ha) and kernel (2009 kg/ha) yield. None of the test genotypes recorded significant higher pod and kernel yields over the best check. Among the test genotypes, Dh 256 was the best for pod (3007 kg/ha) and kernel (2114 kg/ha) yield. This genotype recorded just 5% increase in kernel yield over the best check.

Ancillary Observation

The plant stand was sub-optimal (253000/ha) at Mohanpur. The test genotypes and checks matured between 124d (OG 52-1) to 130d (Girnar-3). Shelling outturn was between 68% (GPBD 5) and 70% (OG 52-1, Girnar-3, R 2001-2). The 100-seed weight was small (39 g) in GPBD 5 and medium (43 g) in Dh 256. The range for oil content observed was 44% (GNH 804) to 48% (OG 52-1, Dh 256). Protein content ranged from 26% to 27%.

Conclusion

Across the three locations and over two years, none of the test genotypes significantly surpassed the yield levels of the best check, R 2001-2 (ZC) and hence none deserves promotion to AVT.

Zone V

One entry, Dh 256 was promoted to AVT in zone V comprising Tamil Nadu, Andhra Pradesh, Karnataka, and Telengana in *kharif* 2018. The trial was allotted to eight centres—two (Vridhachalam, Tindivanam) in Tamil Nadu; Tirupati in 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 21a through 21c**). Whenever, either the coefficient of variation exceeded 25% in any particular location or the mean pod yield of any the location fell below 1436 kg/ha (triennial national average yield of *kharif* season ending 2018), the data could not be included in the analyses. Accordingly at Kadiri centre the mean pod yield was low (1145 kg/ha) and hence the data of this centre could not be included in the pooled 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 (3116 kg/ha of pod and 2158 kg/ha of kernel). There were no significant differences between the test entry Dh 256 and the check varieties. Among the check varieties, R 2001-2 (ZC) was the best for pod (3271 kg/ha) and kernel (2256 kg/ha) yield. The entry Dh 256 recorded a pod and kernel yield of 3101 kg/ha and 2112 kg/ha respectively.

Raichur

The mean yield levels of this centre were very moderate (1822 kg/ha of pod and 1225 kg/ha of kernel). Among the check varieties, R 2001-3 was the best for pod (2031 kg/ha) and kernel (1424 kg/ha) yield and surpassed the kernel yield levels of all the other checks and the test entry, Dh 256. The test genotype Dh 256 recorded a pod yield of 2067 kg/ha and kernel yield of 1332 kg/ha.

Hiriyur

The mean yield levels of this centre were high (2731 kg/ha of pod and 1621 kg/ha of kernel respectively). Among the check varieties, the zonal check variety, R 2001-3 was the best and surpassed the yield levels of all the other checks and the test entry, Dh 256 for pod (3542 kg/ha) as well as kernel (2148 kg/ha) yield. The test genotype Dh 256 recorded a pod yield of 2715 kg/ha and kernel yield of 1560 kg/ha.

Tirupati

The mean yield levels of this centre were high (2555 kg/ha of pod and 1658 kg/ha of kernel). Among the check varieties, the zonal check variety, GJG 32 was the best for pod (2905 kg/ha) and kernel (1840 kg/ha) yield. The test genotype Dh 256 recorded a very high pod yield of 3156 kg/ha and kernel yield of 2065 kg/ha but remained at par with those of the best check.

Palem

The mean yield levels of this centre were high (2210 kg/ha of pod and 1355 kg/ha of kernel). Among the check varieties, the zonal check variety, R 2001-2 was the best for pod (2304 kg/ha) and kernel (1568 kg/ha) yield. The test genotype Dh 256 recorded a pod yield of 2722 kg/ha and kernel yield of 1577 kg/ha but remained at par with those of the best check.

Kadiri

The mean yield levels of this centre were low (1145 kg/ha of pod and 668 kg/ha of kernel). The zonal check variety, R 2001-3 was the best for pod (1469 kg/ha) and kernel yield (866 kg/ha) and

surpassed the yield levels of all the other checks and the test entry, Dh 256 for pod as well as kernel yield. The test genotype, Dh 256 recorded a pod yield of 1236 kg/ha and kernel yield of 726 kg/ha.

Vridhachalam

The mean yield levels of this centre were moderate (1828 kg/ha of pod and 1190 kg/ha of kernel). The zonal check variety, GJG 32 was the best for pod (2335 kg/ha) and kernel yield (1506 kg/ha). The test entry, Dh 256 recorded a pod yield of 2602 kg/ha and kernel yield of 1719 kg/ha but remained at par with those of the best check.

Tindivanam

The mean yield levels of this centre were high (2145 kg/ha of pod and 1413 kg/ha of kernel). The zonal check variety, GJG 32 was the best for pod (2887 kg/ha) and kernel yield (1973 kg/ha). The test entry, Dh 256 recorded a pod yield of 2815 kg/ha and kernel yield of 1976 kg/ha but remained at par with the kernel yield of the best check.

Zonal Mean Performances

The mean yields across the seven centres of this zone were high (2145 kg of pod and 1517 kg of kernel per ha). Across the seven locations, the zonal check variety, GJG 32 was the best for pod (2508 kg/ha) and kernel (1599 kg/ha) yield. Over this check variety, although the test genotype, Dh 256 recorded a high pod (2740 kg/ha) and kernel (1763 kg/ha) yields, but it remained at par with those of the best check GJG 32 (ZC). But this genotype exhibited 10% higher kernel yield when compared with the best check.

Ancillary Observations (Table 21c)

The plant population was the low at Dharwad, Tirupati, sub-optimal at Hiriyur, and Vridhachalam. The entries and checks matured in 116 days. The shelling outturn ranged 63% to 65% in the test materials. Seed size was between 29 g/100 kernels (GPBD 4) to 36g/100 kernels (Dh 256). Oil content of Dh 256 was 49% but ranged between 47%-50%. Protein content in the test materials ranged from 26% to 27%.

Past performances of the test entry Dh 256

As the test genotype Dh 256 exhibited 10% higher kernel yield when compared with the best check at AVT, the past performances of the entry was observed. The entry **Dh 256** was proposed by UAS-Dharwad for multi-locational evaluation in *kharif* 2016. It was promoted to AVT in *kharif* 2018. The entry Dh 256 is a selection from the cross, R 2001-2 x GM-4-3. Results on performances of this entry across different stages of testing are provided in **Tables 21d through 21e**.

Across different stages of testing from 2016 to 2018, the zonal check variety, R 2001-2 was the best both for pod (2837 kg/ha) and kernel yield. This was closely followed by the other two check varieties, R 2001-3 for pod (2713 kg/ha) and kernel (1817 kg/ha). The mean pod yield of the entry **Dh 256** across different stages of evaluation was 3258 kg/ha and kernel yield was 2183 kg/ha.

Over different check varieties, the increase in pod yield of **Dh 256** was 61.2% over GPBD 4; 29.9% over GJG 32; and 20.1% over R 2001-3 and 14.8% over the best check of this zone R 2001-2 and respectively. Whereas increase in kernel yield of this genotype over these check varieties was 59.3% over GPBD 4; 36.6% over GJG 32; 20.2% over GJG 32 and 16.0% over the best check of this zone R 2001-2 respectively (**Table 21d**). The genotype **Dh 256** matured in 114d with 68% of shelling; 36 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 except GPBD 4 (51%

Oil). Protein content of this genotype was 27% and comparable with that of other check varieties (Table 21e).

Conclusion

As the test entry, Dh 256 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 under SB group in this zone for *kharif* season were GPBD 4 in 2004 and VG 9816 in 2008; and R 2001-2 and R 2001-3 in 2009, and JL 1085 identified in 2018. 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 IV

Table 20a: ADVANCED VARIETAL TRIAL (SPANISH) KHARIF 2018

Pod yield (kg/ha)						
S.N.	Entry	Bhubaneswar	Mohanpur	Imphal	Mean	R
1	ASK 2018-1	2028	2510	2252	2263	5
	OG 52-1 (ZC)					
2	ASK 2018-2	2083	2536	2676	2432	4
	Girnar 3 (ZC)					
3	ASK 2018-3	1833	2601	1029	1821	6
	GPBD 5 (ZC)					
4	ASK 2018-4	2222	2974	3316	2837	3
	R 2001-2 (ZC)					
5	ASK 2018-8	2167	3507	2918	2864	2
	GNH 804 (Entry)					
6	ASK 2018-9	1667	4219	3136	3007	1
	Dh 256 (Entry)					
	G.M	2000	3058	2555	2537	
	S.E. Diff. Mean	67.2	179.7	161.6	144.8	
	CD at 5%	140.1	374.9	337.2	289.7	
	CV %	5.3	9.3	10.0	9.0	

Table 20b: ADVANCED VARIETAL TRIAL (SPANISH) KHARIF 2018

Kernel yield (kg/ha)						
S.N.	Entry	Bhubaneswar	Mohanpur	Imphal	Mean	R
1	ASK 2018-1	1249	1846	1684	1593	5
	OG 52-1 (ZC)					
2	ASK 2018-2	1306	1874	1970	1717	4
	Girnar 3 (ZC)					
3	ASK 2018-3	1164	1932	683	1260	6
	GPBD 5 (ZC)					
4	ASK 2018-4	1467	2240	2319	2009	2
	R 2001-2 (ZC)					
5	ASK 2018-8	1333	2578	2051	1987	3
	GNH 804 (Entry)					
6	ASK 2018-9	1023	3071	2247	2114	1
	Dh 256 (Entry)					
	G.M	1257	2257	1826	1780	
	S.E. Diff. Mean	47.4	119.7	120.4	101.8	
	CD at 5%	99.0	249.7	251.1	203.5	
	CV %	6.0	8.4	10.4	9.0	

Table 20c: ADVANCED VARIETAL TRIAL (SPANISH) KHARIF 2018

Ancillary traits

S.N.	Entry	Trait	Bhubaneswar	Mohanpur	Imphal	Mean
1	ASK 2018-1 OG 52-1 (ZC)	PS	310	256	280	282
		D	117	101	153	124
		S	62	74	75	70
		HKW	34	41	49	41
		SMK	80	94	71	82
		O	49	47	47	48
		P	27	26	27	27
2	ASK 2018-2 Girnar 3 (ZC)	PS	312	262	310	295
		D	119	102	169	130
		S	63	74	74	70
		HKW	33	40	48	40
		SMK	82	92	72	82
		O	46	45	48	46
		P	29	27	26	27
3	ASK 2018-3 GPBD 5 (ZC)	PS	315	237	274	275
		D	117	106	149	124
		S	64	74	66	68
		HKW	33	43	40	39
		SMK	81	90	65	79
		O	48	48	46	47
		P	28	26	52	35
4	ASK 2018-4 R 2001-2 (ZC)	PS	316	266	303	295
		D	118	103	164	128
		S	66	75	70	70
		HKW	36	39	45	40
		SMK	84	92	64	80
		O	46	48	41	45
		P	29	25	48	34
5	ASK 2018-8 GNH 804 (Entry)	PS	311	246	277	278
		D	115	104	152	124
		S	62	74	70	69
		HKW	36	45	42	41
		SMK	82	89	64	78
		O	46	44	43	44
		P	29	27	48	34
6	ASK 2018-9 Dh 256 (Entry)	PS	312	254	274	280
		D	120	105	151	125
		S	61	73	72	69
		HKW	35	48	47	43
		SMK	80	94	66	80
		O	47	45	52	48
		P	27	27	25	26
Final plant stand (000/ha)						
	GM		313	253	286	284
	S.E. Diff. Mean		3.5	8.1	3.8	5.6
	CD at 5%		NS	17.0	8.0	11.1
	CV %		1.8	5.1	2.1	3.1

ZONE V

Table 21a: ADVANCED VARIETAL TRIAL (SPANISH) KHARIF 2018

Pod yield (kg/ha)

S.N.	Entry	Dharwad	Raichur	Hiriyur	Tirupati	Palem	Kadiri *	Vriddhac halam	Tindiva nam	Mean (7 Ctrs)	R
1	ASK 2018-4	3271	1750	3180	2526	2304	1381	1672	1766	2353	4
	R 2001-2 (ZC)										
2	ASK 2018-5	2978	1422	1944	1758	1708	519	649	1403	1695	5
	GPBD 4 (ZC)										
3	ASK 2018-6	3131	2031	3542	2431	2106	1469	1881	1856	2425	3
	R 2001-3 (ZC)										
4	ASK 2018-7	3100	1842	2276	2905	2208	1120	2336	2887	2508	2
	GJG 32 (ZC)										
5	ASK 2018-9	3101	2067	2715	3156	2722	1236	2602	2815	2740	1
	Dh 256 (Entry)										
	G.M	3116	1822	2731	2555	2210	1145	1828	2145	2344	
	S.E. Diff. Mean	166.1	150.7	313.5	304.6	101.6	102.6	161.9	55.4	200.4	
	CD at 5%	NS	319.6	664.7	645.8	215.5	217.5	343.2	117.4	396.7	
	CV %	8.4	13.1	18.2	18.9	7.3	14.2	14.0	4.1	13.5	

* The centre not included in the pooled analysis because its pod yield was below triennial national average (1436 kg/ha).

Table 21b: ADVANCED VARIETAL TRIAL (SPANISH) KHARIF 2018

Kernel yield (kg/ha)

S.N.	Entry	Dharwad	Raichur	Hiriyur	Tirupati	Palem	Kadiri *	Vriddhac halam	Tindiva nam	Mean (7 Ctrs)	R
1	ASK 2018-4	2256	1170	1861	1651	1568	832	1095	1104	1529	4
	R 2001-2 (ZC)										
2	ASK 2018-5	2258	1027	1214	1133	956	271	400	815	1115	5
	GPBD 4 (ZC)										
3	ASK 2018-6	2152	1424	2148	1601	1306	866	1229	1196	1579	3
	R 2001-3 (ZC)										
4	ASK 2018-7	2011	1170	1322	1840	1369	646	1506	1973	1599	2
	GJG 32 (ZC)										
5	ASK 2018-9	2112	1332	1560	2065	1577	726	1719	1976	1763	1
	Dh 256 (Entry)										
	G.M	2158	1225	1621	1658	1355	668	1190	1413	1517	
	S.E. Diff. Mean	128.2	109.6	207.8	213.3	64.5	64.6	115.8	37.2	139.4	
	CD at 5%	NS	232.2	440.5	452.3	136.8	137.0	245.4	79.0	276.0	
	CV %	9.4	14.2	20.3	20.4	7.5	15.3	15.4	4.2	14.5	

* The centre not included in the pooled analysis because its pod yield was below triennial national average (1436 kg/ha).

Table 21c: ADVANCED VARIETAL TRIAL (SPANISH) KHARIF 2018

Ancillary traits

S. N.	Entry	Trait	Dharwad	Raichur	Hiriyur	Tirupati	Palem	Kadiri *	Vridhha chalam	Tindiva nam	Mean (7 Ctrs)
1	ASK 2018-4 R 2001-2 (ZC)	PS	160	302	223	220	313	308	247	326	256
		D	112	113	117	122	122	122	110	116	116
		S	69	67	58	66	68	60	65	63	65
		HKW	34	28	35	30	36	28	37	29	33
		SMK	93	87	75	81	80	84	82	88	84
		O	51	47	49	47	48	-	44	46	47
		P	27	29	26	26	29	-	27	27	27
2	ASK 2018-5 GPBD 4 (ZC)	PS	162	303	243	220	318	314	288	318	265
		D	108	115	124	122	121	120	108	116	116
		S	76	72	63	64	56	52	62	58	64
		HKW	31	30	35	30	27	27	28	25	29
		SMK	92	85	77	85	60	83	81	88	81
		O	49	53	53	52	48	-	43	51	50
		P	27	25	25	25	29	-	27	25	26
3	ASK 2018-6 R 2001-3 (ZC)	PS	151	304	267	218	309	308	302	314	267
		D	110	109	119	122	122	121	115	116	116
		S	69	70	60	66	62	59	65	64	65
		HKW	34	28	42	30	30	29	36	29	33
		SMK	92	87	70	81	85	82	61	87	80
		O	50	48	49	47	48	-	46	48	48
		P	27	28	26	26	28	-	26	26	27
4	ASK 2018-7 GJG 32 (ZC)	PS	151	298	243	222	317	319	259	313	257
		D	112	114	123	122	120	120	108	116	116
		S	65	63	58	63	62	57	64	68	63
		HKW	33	29	36	32	39	32	38	39	35
		SMK	89	80	70	81	90	85	68	93	82
		O	50	50	53	51	49	-	50	49	50
		P	27	27	25	25	27	-	25	25	26
5	ASK 2018-8 Dh 256 (Entry)	PS	144	292	284	212	319	306	281	305	262
		D	110	115	119	122	118	119	110	116	116
		S	68	64	58	65	58	59	66	70	64
		HKW	36	30	38	31	35	29	42	41	36
		SMK	92	86	80	82	85	86	72	96	85
		O	50	47	50	50	48	-	49	48	49
		P	27	28	26	26	27	-	25	25	26
Final plant stand (000/ha)											
	GM		153	300	252	218	315	311	275	315	261
	S.E. Diff. Mean		11.4	6.8	11.6	6.0	3.8	15.6	26.6	3.4	12.4
	CD at 5%		NS	NS	24.6	NS	NS	NS	NS	7.2	24.6
	CV %		11.7	3.6	7.3	4.3	1.9	7.9	15.3	1.7	7.52

* The centre not included in the pooled analysis because its pod yield was below triennial national average (1436 kg/ha).

Table 21d: Past performance of Dh 256 in Zone V

S. No.	Entry/ Variety	Trait	IVT I 2016 (7 Cntrs.)	IVT II 2017 (7 Cntrs.)	Pooled Mean (IVT I & II)	AVT 2018 (7 Cntrs.)	Mean (Pooled + AVT)	Weighted mean	% yield increase over Weighted mean			
									R 2001-2	GPBD 4	R 2001-3	GJG 32
1	Dh 256 (entry)	P	3279	3755	3517	2740	3129	3258	14.8	61.2	20.1	29.9
		K	2201	2586	2394	1763	2078	2183	16.0	59.3	20.2	36.6
2	R 2001-2 (ZC)	P	3107	3051	3079	2353	2716	2837				
		K	2028	2089	2058	1529	1794	1882				
3	GPBD 4 (ZC)	P	2132	2236	2184	1695	1939	2021				
		K	1452	1545	1499	1115	1307	1371				
4	R 2001-3 (ZC)	P	2726	2988	2857	2425	2641	2713				
		K	1844	2026	1935	1579	1757	1817				
5	GJG 32 (ZC)	P	-	-	-	2508	2508	2508				
		K	-	-	-	1599	1599	1599				

Table 21e: Ancillary Observations over stages

S. No.	Entry/ Variety	Trait	IVT I 2016 (7 Cntrs.)	IVT II 2017 (7 Cntrs.)	Pooled Mean (IVT I & II)	AVT 2018 (7 Cntrs.)	Mean (Pooled + AVT)	Weighted mean
1	Dh 256 (entry)	D	115	110	113	116	114	114
		S	70	70	70	64	67	68
		HKW	34	39	36	36	36	36
		SMK	84	89	86	85	86	86
		O	50	51	50	49	50	50
		P	27	28	27	26	27	27
2	R 2001-2 (ZC)	D	113	110	112	116	114	113
		S	67	69	68	65	67	67
		HKW	33	33	33	33	33	33
		SMK	84	86	85	84	85	85
		O	49	49	49	47	48	48
		P	25	26	25	27	26	26
3	GPBD 4 (ZC)	D	114	109	112	116	114	113
		S	65	67	66	64	65	65
		HKW	29	31	30	29	30	30
		SMK	83	81	82	81	82	82
		O	51	52	51	50	51	51
		P	26	27	27	26	26	27
4	R 2001-3 (ZC)	D	115	110	113	116	114	114
		S	68	68	68	65	67	67
		HKW	33	33	33	33	33	33
		SMK	85	86	86	80	83	84
		O	49	49	49	48	49	49
		P	25	26	25	27	26	26
5	GJG 32 (ZC)	D	-	-	-	116	116	116
		S	-	-	-	63	63	63
		HKW	-	-	-	35	35	35
		SMK	-	-	-	82	82	82
		O	-	-	-	50	50	50
		P	-	-	-	26	26	26

High oleic Acid Varietal Trial (AVT-I; HOVT SB &VG)

A special trial on High oleic Acid Varietal Trial (HOVT) has been constituted with eight elite Spanish Bunch and six elite Virginia genotypes developed by ICAR-DGR Junagadh (6 VG entries), JAU Junagadh (5 SB entries) and UAS Raichur (3 SB entries). The check varieties used were TG 37A, GPBD 4 and GJG 32 (ICGV 03043) in Spanish Bunch trial and GG 20, KDG 128 (Phule Warna) and KDG 123 (Phule Morna) in Virginia trial.

There were six locations Tindivanam (Tamil Nadu), Palem (Telengana), Tirupati (Andhra Pradesh), Dharwad (Karnataka), Junagadh (Gujarat), and Durgapura (Rajasthan). All the centres have conducted the trial and reported the data (**Tables 22a through 23d**) except for RAU Durgapura centre which did not report the data of HOVT-SB trial but reported the data of HOVT-VG trial.

The mean yield levels of the Spanish Bunch test materials including those of check varieties were 2746 kg and 1806 kg per ha. The CV% was also well within the limits (around 12%) for pod as well as kernel yield (**Table 22a, b**).

Whereas the mean yield levels of the Virginia test materials including those of check varieties were 2106 kg and 1513 kg per ha. The CV% was high (28.9% for pod and 30.9% for kernel yield) at Tirupati centre and there were no significant differences among the test genotypes and checks for both pod and kernel yield at Durgapura centre. Over six locations the CV% was well within the limits (around 12%) for pod as well as kernel yield (**Table 23a,b**).

Among Spanish bunch entries, the oil content (**Table 22c**) was also in the range of 47% to 51%. and in Virginia genotypes it was in the range of 48%-51% (**Table 23c**). Oleic acid content was varying across the locations except for Durgapura where the expression of this trait has been found altered. As such the trial has to be repeated for one more year, hence no decision need to be taken regarding promotion of these varieties.

Table 22a: HIGH OLEIC VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2018)**Pod yield (kg/ha)**

S.N.	Entry	Junagadh	Tindivana m	Dharwad	Palem	Tirupati	Pooled mean	R
1	HOVTSB-2018-1	3808	3105	3477	1540	2363	2859	6
2	HOVTSB-2018-2	3393	2683	4037	1293	1842	2650	8
3	HOVTSB-2018-3	2683	2337	2940	1447	2102	2302	9
4	HOVTSB-2018-4	4165	3012	3997	1312	2677	3033	3
5	HOVTSB-2018-5	3509	3002	3825	1383	2897	2923	4
6	HOVTSB-2018-6	3357	2934	4139	1476	2618	2905	5
7	HOVTSB-2018-7	3581	2953	3568	1485	2216	2761	7
8	HOVTSB-2018-8	4187	2916	3945	2015	3230	3259	1
9	HOVTSB-2018-9	2437	1700	3336	1329	2198	2200	11
10	HOVTSB-2018-10	2532	1466	3909	1128	2000	2207	10
11	HOVTSB-2018-11	3867	3011	3594	1661	3422	3111	2
	G.M	3411	2647	3706	1461	2506	2746	
	S.E. Diff. Mean	249.6	103.1	310.0	93.1	288.0	228.3	
	CD at 5%	509.7	210.6	633.1	190.2	588.1	447.5	
	CV %	10.4	5.5	11.8	9.0	16.3	11.8	

Table 22b: HIGH OLEIC VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2018)**Kernel yield (kg/ha)**

S.N.	Entry	Junagadh	Tindivana m	Dharwad	Palem	Tirupati	Pooled mean	R
1	HOVTSB-2018-1	2664	1932	2135	785	1486	1800	8
2	HOVTSB-2018-2	2608	1807	2942	674	1242	1855	6
3	HOVTSB-2018-3	1921	1500	1942	752	1450	1513	11
4	HOVTSB-2018-4	2815	1770	2389	684	1740	1880	5
5	HOVTSB-2018-5	2459	1954	2334	733	1924	1881	4
6	HOVTSB-2018-6	2406	1884	2548	739	1654	1846	7
7	HOVTSB-2018-7	2627	2054	2480	862	1462	1897	3
8	HOVTSB-2018-8	2918	1759	2425	1087	2241	2086	1
9	HOVTSB-2018-9	1777	1139	2375	756	1559	1521	10
10	HOVTSB-2018-10	1803	997	2962	621	1320	1541	9
11	HOVTSB-2018-11	2700	2027	2330	1032	2151	2048	2
	G.M	2427	1711	2442	793	1657	1806	
	S.E. Diff. Mean	174.9	65.0	216.3	51.9	190.7	155.3	
	CD at 5%	357.1	132.8	441.6	105.9	389.4	304.5	
	CV %	10.2	5.4	12.5	9.3	16.3	12.2	

Table 22c: HIGH OLEIC VARIETAL TRIAL (SPANISH) STAGE I (Kh. 2018)

S.N.	Entry	Trait	Ancillary traits					Pooled mean
			Junagadh	Dharwad	Palem	Tirupati	Tindivanam	
1	HOVTSB-2018-1	PS	306	164	301	290	271	267
		D	101	112	113	122	116	113
		S	70	62	51	63	62	62
		HKW	41	35	32	31	29	33
		SMK	92	88	82	82	93	88
		O	54	48	47	48	54	50
		P	26	28	28	26	24	26
2	HOVTSB-2018-2	PS	319	149	307	230	261	253
		D	97	110	112	122	116	111
		S	77	73	52	68	67	67
		HKW	63	50	39	36	41	46
		SMK	96	97	80	85	94	90
		O	50	47	48	48	47	48
		P	27	29	28	26	26	27
3	HOVTSB-2018-3	PS	315	171	300	274	273	267
		D	96	112	119	122	116	113
		S	72	66	52	69	64	65
		HKW	35	33	31	34	25	32
		SMK	88	90	70	87	89	85
		O	54	48	48	47	54	50
		P	26	28	28	26	24	26
4	HOVTSB-2018-4	PS	308	172	300	285	266	266
		D	96	113	119	122	119	114
		S	68	60	52	65	59	61
		HKW	44	37	36	35	34	37
		SMK	91	90	70	90	96	87
		O	52	48	48	47	55	50
		P	26	28	29	26	23	27
5	HOVTSB-2018-5	PS	317	156	302	260	245	256
		D	97	115	113	122	119	113
		S	70	61	53	67	65	63
		HKW	40	33	39	35	38	37
		SMK	93	90	75	84	96	88
		O	54	48	48	48	56	51
		P	26	28	28	26	23	26
6	HOVTSB-2018-6	PS	313	174	309	298	258	270
		D	99	113	110	122	116	112
		S	72	62	50	64	64	62
		HKW	41	32	35	32	33	35
		SMK	90	87	65	84	97	85
		O	54	49	49	49	55	51
		P	26	28	28	26	23	26

S.N.	Entry	Trait	Junagadh	Dharwad	Palem	Tirupati	Tindivanam	Pooled mean
7	HOVTSB-2018-7	PS	321	145	312	261	251	258
		D	97	114	118	122	116	113
		S	73	69	58	67	70	67
		HKW	47	36	35	39	33	38
		SMK	92	89	85	89	92	89
		O	53	46	48	47	54	49
		P	26	29	28	27	24	27
8	HOVTSB-2018-8	PS	306	166	314	278	256	264
		D	101	113	118	122	119	115
		S	70	61	54	70	60	63
		HKW	45	37	35	35	35	37
		SMK	94	90	80	84	91	88
		O	53	47	49	45	53	50
		P	26	28	27	27	24	26
9	HOVTSB-2018-9	PS	321	128	312	235	258	251
		D	99	98	112	122	116	109
		S	73	71	57	71	67	68
		HKW	45	38	34	36	45	40
		SMK	95	93	86	85	96	91
		O	47	46	47	46	48	47
		P	28	29	28	28	26	28
10	HOVTSB-2018-10	PS	319	162	322	259	253	263
		D	96	110	118	122	116	112
		S	71	76	55	66	68	67
		HKW	29	33	27	34	29	31
		SMK	85	93	75	89	88	86
		O	50	49	49	49	51	49
		P	27	27	27	26	25	26
11	HOVTSB-2018-11	PS	325	166	309	273	242	263
		D	98	113	118	122	119	114
		S	70	65	62	63	67	65
		HKW	35	33	36	33	37	35
		SMK	87	87	75	82	99	86
		O	51	47	48	48	52	49
		P	26	28	28	26	24	27
Final plant stand (000/ha)								
	GM		315	159	308	268	258	262
	S.E. Diff. Mean		8.2	8.5	6.4	26.4	10.1	14.0
	CD at 5%		NS	17.3	13.1	NS	NS	27.4
	CV %		3.7	7.5	2.9	13.9	5.5	7.6

Table No. 22d: Oleic, Linoleic Acid contents and O/L ratio in high oleate spanish bunch genotypes

SN	Entry	Junagadh			Palem			Tindivanam			Dharwad			Tirupati			Pooled Mean	
		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	Linoleic Acid	O/L Ratio
1	HOVTSB-2018-1	81.09	2.29	35.43	78.32	3.77	20.79	80.63	2.21	36.51	79.28	3.65	21.75	80.25	2.14	37.55	79.91	2.81
2	HOVTSB-2018-2	80.49	3.01	26.74	73.87	7.96	9.28	78.48	3.62	21.66	76.85	5.41	14.20	79.12	3.82	20.71	77.76	4.76
3	HOVTSB-2018-3	81.82	2.37	34.47	77.70	4.70	16.54	80.24	2.66	30.20	79.23	3.80	20.84	78.68	3.35	23.46	79.53	3.38
4	HOVTSB-2018-4	81.00	2.28	35.49	74.32	7.67	9.69	78.11	3.46	22.60	76.53	5.01	15.27	78.93	4.08	19.37	77.78	4.50
5	HOVTSB-2018-5	79.34	3.31	23.94	78.90	3.58	22.07	79.61	3.02	26.40	79.71	3.15	25.35	79.23	3.87	20.46	79.36	3.38
6	HOVTSB-2018-6	80.48	2.52	31.90	76.46	5.42	14.12	78.50	3.45	22.74	75.45	6.05	12.47	80.74	2.31	35.00	78.33	3.95
7	HOVTSB-2018-7	77.13	5.18	14.89	73.20	7.36	9.94	78.69	3.72	21.15	53.58	24.83	2.16	78.78	3.59	21.96	72.28	8.94
8	HOVTSB-2018-8	80.97	2.86	28.34	75.77	5.96	12.72	78.90	2.93	26.95	42.46	35.08	1.21	80.33	2.80	28.70	71.69	9.92
9	HOVTSB-2018-9	36.62	40.74	0.90	38.82	38.80	1.00	38.81	39.85	0.97	37.09	38.40	0.97	41.00	37.58	1.09	38.47	39.08
10	HOVTSB-2018-10	49.90	27.85	1.79	44.38	32.55	1.36	51.86	28.62	1.81	50.60	26.07	1.94	52.30	25.51	2.05	49.81	28.12
11	HOVTSB-2018-11	36.72	41.02	0.90	38.40	39.40	0.97	38.85	39.68	0.98	37.28	38.62	0.97	40.02	37.33	1.07	38.25	39.21

Table 23a: HIGH OLEIC VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2018)**Pod yield (kg/ha)**

S. N.	Entry	Junagadh	Durgapura	Dharwad	Palem	Tirupati	Tindivanam	Pooled mean	R
1	HOVTVG-2018-1	2380	4259	2471	845	314	1199	1911	7
2	HOVTVG-2018-2	2058	3733	2055	808	596	1272	1754	9
3	HOVTVG-2018-3	2487	4058	2322	881	811	1628	2031	4
4	HOVTVG-2018-4	2253	4311	2161	772	555	1764	1969	5
5	HOVTVG-2018-5	2625	3964	2204	839	530	1286	1908	8
6	HOVTVG-2018-6	2079	4508	2348	973	492	1218	1936	6
7	HOVTVG-2018-7	2656	3983	2561	777	558	1699	2039	3
8	HOVTVG-2018-8	3701	4311	3498	1166	1327	2871	2812	1
9	HOVTVG-2018-9	3380	4185	3285	978	1017	2699	2591	2
	G.M	2624	4146	2545	893	689	1737	2106	
	S.E. Diff. Mean	172.5	286.6	187.3	52.4	140.8	55.4	169.6	
	CD at 5%	356.1	NS	386.5	108.1	290.7	114.3	332.5	
	CV %	9.3	9.8	10.4	8.3	28.9	4.5	11.4	

Table 23b: HIGH OLEIC VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2018)**Kernel yield (kg/ha)**

S. N.	Entry	Junagadh	Durgapura	Dharwad	Palem	Tirupati	Tindivanam	Pooled mean	R
1	HOVTVG-2018-1	1742	3211	1712	456	199	809	1355	8
2	HOVTVG-2018-2	1550	2871	1453	526	410	883	1282	9
3	HOVTVG-2018-3	1823	3092	1647	573	565	1148	1475	4
4	HOVTVG-2018-4	1683	3316	1519	494	363	1274	1442	5
5	HOVTVG-2018-5	1936	3031	1531	503	352	914	1378	7
6	HOVTVG-2018-6	1557	3427	1599	604	316	827	1388	6
7	HOVTVG-2018-7	2048	3075	1779	481	368	1155	1484	3
8	HOVTVG-2018-8	2644	3184	2356	700	927	2065	1979	1
9	HOVTVG-2018-9	2492	3081	2172	586	718	1958	1835	2
	G.M	1942	3143	1752	547	469	1226	1513	
	S.E. Diff. Mean	132.0	218.8	134.3	34.9	102.4	38.4	126.6	
	CD at 5%	272.5	NS	277.1	72.1	211.4	79.2	248.1	
	CV %	9.6	9.9	10.8	9.0	30.9	4.4	11.9	

Table 23c: HIGH OLEIC VARIETAL TRIAL (VIRGINIA) STAGE I (Kh. 2018)

Ancillary traits

S.N.	Entry	Trait	Junagadh	Durgapura	Dharwad	Palem	Tirupati	Tindivana m	Pooled mean
1	HOVTVG-2018-1	PS	147	149	87	181	60	119	124
		D	115	125	120	119	129	133	124
		S	73	73	69	54	63	68	67
		HKW	49	57	45	42	28	46	44
		SMK	87	96	92	75	81	97	88
		O	53	51	49	49	48	52	50
		P	26	26	28	28	26	25	26
2	HOVTVG-2018-2	PS	138	139	97	191	70	121	126
		D	113	127	123	120	129	133	124
		S	75	77	71	65	69	70	71
		HKW	57	53	47	43	30	45	46
		SMK	93	97	91	87	90	94	92
		O	52	51	47	49	48	53	50
		P	26	26	28	28	26	24	27
3	HOVTVG-2018-3	PS	147	141	106	190	86	139	135
		D	112	126	125	113	129	136	123
		S	73	76	71	65	70	71	71
		HKW	45	51	43	35	29	43	41
		SMK	92	95	94	83	85	97	91
		O	53	49	48	48	47	52	49
		P	26	27	28	28	27	25	27
4	HOVTVG-2018-4	PS	147	146	102	180	64	135	129
		D	111	126	122	110	129	136	122
		S	75	77	70	64	65	72	71
		HKW	53	55	42	40	31	40	43
		SMK	93	97	94	85	81	93	91
		O	54	50	49	49	51	52	51
		P	26	27	27	28	25	24	26
5	HOVTVG-2018-5	PS	146	149	97	189	72	127	130
		D	111	126	120	118	129	136	123
		S	74	77	69	60	67	71	70
		HKW	41	50	39	36	28	36	38
		SMK	88	93	93	80	82	92	88
		O	52	50	47	47	45	51	48
		P	26	27	29	29	28	25	27
6	HOVTVG-2018-5	PS	146	149	100	177	74	122	128
		D	113	127	120	118	129	136	124
		S	75	76	68	62	65	68	69
		HKW	47	46	39	41	28	37	40
		SMK	92	94	87	93	95	88	92
		O	54	52	47	48	48	52	50
		P	25	26	28	29	27	25	27

S.N.	Entry	Trait	Junagadh	Durgapura	Dharwad	Palem	Tirupati	Tindivana m	Pooled mean
7	HOVTVG-2018-7	PS	145	139	89	185	80	139	130
		D	111	127	117	123	129	136	124
		S	77	77	69	62	67	68	70
		HKW	64	62	60	48	35	57	54
		SMK	98	97	96	90	86	95	94
		O	52	50	48	48	50	51	50
		P	26	27	28	28	25	25	26
8	HOVTVG-2018-8	PS	132	142	118	187	96	142	136
		D	109	128	120	118	129	136	123
		S	71	74	67	60	70	72	69
		HKW	40	46	38	32	29	37	37
		SMK	84	95	91	72	80	80	84
		O	51	49	45	47	45	50	48
		P	27	27	29	29	27	25	27
9	HOVTVG-2018-9	PS	127	146	106	188	90	144	133
		D	108	128	122	118	129	136	123
		S	74	74	66	60	71	73	69
		HKW	42	44	38	36	29	42	39
		SMK	88	97	95	78	79	90	88
		O	50	48	49	49	48	49	49
		P	26	27	28	28	26	25	27
Final plant stand (000/ha)									
	GM		142	144	100	185	77	132	130
	S.E. Diff. Mean		3.0	3.6	7.0	4.0	9.8	6.6	6.2
	CD at 5%		6.1	7.4	14.5	8.3	20.3	13.7	12.1
	CV %		3.0	3.5	9.9	3.1	18.1	7.1	6.7

Table No. 23d: Oleic, Linoleic Acid contents and O/L ratio in high oleate virginia genotypes

SN	Entry	Junagadh			Palem			Tindivanam			Dharwad			Durgapura			Tirupati			Pooled Mean	
		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	Linoleic Acid	O/L Ratio
1	HOVTVG-2018-1	79.19	3.81	20.76	73.15	7.65	9.56	79.47	3.04	26.17	77.27	5.34	14.47	79.52	3.65	21.76	76.83	5.85	13.14	65.74	6.11
2	HOVTVG-2018-2	79.62	3.14	25.35	74.11	6.46	11.48	76.71	4.21	18.21	78.73	4.87	16.16	78.75	3.81	20.69	77.62	3.89	19.97	65.30	7.08
3	HOVTVG-2018-3	77.43	5.23	14.80	71.49	10.82	6.61	78.31	3.85	20.36	74.83	7.85	9.54	73.59	8.85	8.31	75.84	5.72	13.26	63.56	8.31
4	HOVTVG-2018-4	78.21	4.30	18.17	63.33	16.75	3.78	65.15	14.77	4.41	71.46	8.00	8.93	66.30	15.36	4.32	69.95	10.18	6.87	59.10	11.01
5	HOVTVG-2018-5	75.62	5.41	13.97	69.09	12.27	5.63	74.33	7.17	10.37	69.95	10.68	6.55	70.50	10.74	6.56	73.22	6.81	10.75	61.05	9.50
6	HOVTVG-2018-6	76.27	4.98	15.33	76.61	5.18	14.79	77.33	4.48	17.25	63.73	17.87	3.57	78.41	3.07	25.55	75.05	5.42	13.86	62.96	8.24
7	HOVTVG-2018-7	61.48	19.41	3.17	76.21	6.23	12.23	64.79	16.27	3.98	55.37	24.57	2.25	61.96	19.42	3.19	63.13	17.26	3.66	56.18	14.93
8	HOVTVG-2018-8	41.04	35.95	1.14	40.20	37.31	1.08	44.41	32.31	1.37	39.19	38.44	1.02	39.48	38.34	1.03	52.57	25.27	2.08	38.26	30.74
9	HOVTVG-2018-9	41.04	36.27	1.13	37.89	37.07	1.02	45.28	31.89	1.42	38.91	38.85	1.00	39.45	38.59	1.02	48.82	29.37	1.66	38.66	30.72

Advanced High oleic Acid Varietal Trial- I & II (Pooled)
(AVT- I & II-Pooled HOVT)
Habit Group: Spanish Bunch

A special trial on High oleic Acid Varietal Trial (HOVT) has been constituted during kharif 1017 with 18 genotypes. The check varieties used were TG 37A, GPBD 4 and GJG 32 (ICGV 03043). There were six locations Tindivanam (Tamil Nadu), Palem (Telengana), Tirupati (Andhra Pradesh), Dharwad (Karnataka), Junagadh (Gujarat), and Durgapura (Rajasthan). All the centres have conducted the trial and reported the data (**Tables 24a through 24c**) of two years of experimentation except for Palem centre which did not conduct and report the data of second year (kharif 2018). Over six locations the CV% was well within the limits (around 13%) for pod as well as kernel yield. The centre-wise results are presented below.

Junagadh

In this location, the mean pod (2501 kg/ha) and kernel yield (1761kg/ha) of the genotypes over two years were high. Over the two test years among checks, ICGV 03043 was the best check of this centre with a very high pod (3026 kg/ha) and kernel (2098 kg/ha) yield respectively. None of the genotypes could significantly surpass the pod and kernel yields of the best check ICGV 03043. Two and four test genotypes respectively recorded numerically higher pod and kernel yields over the best check respectively. The genotypes and their pod and kernel yield were: **ICGV 15083** (3165 kg/ha of pod; 2242 kg/ha of kernel); **ICGV 15074** (2945kg/ha of pod; 2124 kg/ha of kernel); **ICGV 15064** (2928 kg/ha of pod; 2122 kg/ha of kernel); and **ICGV 15052** (3162 kg/ha of pod; 2220 kg/ha of kernel).

Durgapura

The mean pod (3759 kg/ha) and kernel (2604 kg/ha) yield over two years were very high at this centre. **Over two years, the check variety, ICGV 03043 was the best for pod (4306 kg/ha) and kernel yield (3094 kg/ha) and surpassed the kernel yield of test genotypes and other checks.** Among the test genotypes, ICGV 15083 (4462 kg/ha); and ICGV 15106 (4454 kg/ha) recorded numerically higher pod yield over the best check. For kernel yield no genotype was found superior over the best check. However three genotypes, ICGV 15090 (3052 kg/ha), ICGV 15083 (2559 kg/ha) and ICGV 15017 (3068 kg/ha) exhibited kernel yields around 3.0 ton pod per ha.

Dharwad

In this location, the mean pod and kernel yields of the genotypes over two years were very high (2937 kg/ha and 2050 kg/ha respectively). **Over two years, the check variety, ICGV 03043 was the best with a very high pod (3796 kg/ha) and kernel yield (2606 kg/ha) and surpassed the pod and kernel yield of test genotypes and other checks.** Two genotypes, ICGV 15090 (3587/ha of pod; 2478 kg/ha of kernel) and ICGV 15070 (3531/ha of pod; 2405 kg/ha of kernel) crossed 3.5 ton of pod per ha mark.

Tindivanam

In this location, the mean pod and kernel yields of the genotypes over two years were high (2371 kg/ha and 1566 kg/ha respectively). **The check variety, ICGV 03043 was the best for pod (2799 kg/ha) and kernel yield (1879 kg/ha) over two years and five locations.** Only one test genotype, ICGV 15083 could significantly surpass the pod (3284 kg/ha) and kernel (2148 kg/ha) yield of this best check.

Tirupati

In this location, the mean pod (1679 kg/ha) and kernel (1103 kg/ha) yields of the genotypes over two years were moderate. During second year the pod yield of most of the test genotypes were low. **The check variety, ICGV 03043 was the best for pod (2718 kg/ha) and kernel (1833 kg/ha) yield and surpassed the pod and kernel yield of test genotypes and other checks.** Among the test genotypes, ICGV 15083 was the best for pod (2321 kg/ha) and kernel (1522 kg/ha) yield closely followed by ICGV 15090 (2309 kg of pod; 1520 kg of kernel per ha).

Palem

The Palem centre conducted only first year trial and hence the data of this centre could also not be used for pooled analysis. In this centre the pod (2431 kg/ha) and kernel yield (1352 kg/ha) during kharif 2017 were high. **In kharif 2017, the check variety, ICGV 03043 was the best for pod (3156 kg/ha) and kernel yield (2302 kg/ha) and surpassed the pod and kernel yield of test genotypes and other checks.** Among the test genotypes, ICGV 15073 (3101 kg of pod; 1814 kg of kernel per ha) was the best.

Mean Performances over Locations

The mean pod and kernel yields of the genotypes over two years and five locations were high (2650 kg/ha and 1817 kg/ha respectively). Across five locations and over two years, the check variety, **ICGV 03043 was the best for pod (3329 kg/ha) and kernel (2302 kg/ha) and surpassed the pod and kernel yield of all the test genotypes and other checks. This check, out of six locations, in five locations and over two years surpassed the pod and kernel yield of test genotypes and other checks.**

Among the test genotypes, **ICGV 15083** was found the best for pod (3305 kg/ha) and kernel (2243 kg/ha). **This genotype ICGV 15083 was less by only 24 kg of pod and less by 59 kg of kernel per ha when compared with the best check, ICGV 03043.**

Similarly another genotype, **ICGV 15090** also exhibited 3.0 tons pod per ha (3147 kg/ha) and kernel yield over 2.0 tons (2176 kg/ha). **This genotype, ICGV 15090 was less by 182 kg of pod and less by 126 kg of kernel per ha when compared with the best check ICGV 03043.**

Ancillary Observation

Plant stand was low at Dharwad (170000/ha), and Tirupati (191000/ha). The test genotypes and checks matured around 110 d (GPBD 4) to 115 days (ICGV 15064). Shelling outturn ranged between 64% (ICGV 15105) and 71% (ICGV 15016, ICGV 15017, TG 37A). The 100-seed weight was low 27 g in Dh 266 to 44g in ICGV 15064. Samples for oil and protein analyses was not submitted by Tirupati and Palem centres for the year 2017. Oil content ranged from 50% (TG 37A) to 53% (ICGV 15064). Protein content ranged from 26%-27%. **(Table 24c)**

Across different locations and over two years, the check variety ICGV 00343 recorded 52.58% oleic acid. Whereas the two genotypes which were comparable with the best check had 78.15% (ICGV 15090) and 78.24% (ICGV 15083) oleic acid which fulfills the bench mark set for high oleate lines **(Table 24d)**.

Past performances of the test entries ICGV 15083 and ICGV 15090 (Table 24e)

The best check, ICGV 03043 (GJG 32) out-yielded all the test entries and other two check varieties. None of the test genotypes could significantly surpass the pod and kernel yield of this best check. ICGV 03043 (GJG 32) is a recently released groundnut variety (released in 2018) released for Zone V comprising Tamil Nadu, Andhra Pradesh, Karnataka, and Telengana. However two test genotypes, ICGV 15083 and ICGV 15090 recorded below par yield with those of the best check with almost 3.0 tons of pod yield. Hence these two varieties were considered. Both the varieties have been proposed by ICAR-DGR, Junagadh for multi-locational evaluation in *kharif* 2017 at AVT-I under High oleate varietal Trial stage I. The claimed oleic acid content at the time of proposal was 76% in ICGV 15083 while it was 63% in ICGV 15090. These were evaluated at AVT-II as such in *kharif* 2018. The past performances of the both these genotypes were considered to draw meaningful comparisons. Results on mean performances of these two entries across different locations and years of testing are provided in **Tables 24e through 24f**.

Across two stages of testing from 2017 to 2018, the zonal check variety, GPBD 4 recorded a pod yield of 2046 kg/ha and a kernel yield of 1385 kg/ha and ranked 19th for both pod and kernel yield among 22 entries.

This was closely followed by the other check variety, TG 37A, although this check was not released for southern states, but meant for Rajasthan and Gujarat, exhibited a pod and kernel yield of 2276 kg/ha and 1593 kg/ha respectively. This check, ranked 18th for both pod and kernel yield among the total of 22 entries.

Over different check varieties, the increase in pod yield of **ICGV 15083** was 57.3% over GPBD 4; and 41.4% over TG 37A, but fell short by just by 2.9% over ICGV 00343 (GJG 32) respectively. Whereas increase in kernel yield of this genotype over these check varieties was 56.4% over GPBD 4; and 36.0% over TG 37A, but was less by 3.8% over ICGV 00343 (GJG 32) respectively (**Table 24e**). The genotype **ICGV 15083** matured in 112d with 67% of shelling; 43 g as Hundred Seed Mass, which was comparatively higher over all the check varieties and with a high oil content (53%) which is 1-2% higher over all the checks. Protein content of this genotype was 27% and comparable with that of other check varieties (**Table 24f**).

Over different check varieties, the increase in pod yield of the other entry **ICGV 15090** was 52.7% over GPBD 4; and 37.3% over TG 37A, but fell short by 5.7% over ICGV 00343 (GJG 32) respectively. Whereas increase in kernel yield of this genotype over these check varieties was 54.0% over GPBD 4; and 33.9% over TG 37A, but was less by 5.3% over ICGV 00343 (GJG 32) respectively (**Table 24e**). The genotype **ICGV 15090** matured in 113d with 67% of shelling; 41 g as Hundred Seed Mass, which was comparatively higher over all the check varieties and with a high oil content (53%) over all the checks. Protein content of this genotype was 26% and comparable with that of other check varieties (**Table 24f**).

Conclusion

Though none of the test entries could significantly out yield the best check, two entries **ICGV 15083 and ICGV 15090 exhibited comparable yields with that of the best check**. They also exhibited 78% of oleic acid fulfilling the benchmark level of oleic acid that needs to be present in a genotype to be considered as '**high oleate**' and hence proposed for identification.

Table 24a: HIGH OLEIC VARIETAL TRIAL STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED Pod yield (kg/ha)

S.N.	Entry	Junagadh			Durgapura			Dharwad			Tindivanam			Tirupati			Palem *	Pooled mean (5 Ctrs)	R
		2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean			
1	HOVT 2017-1 ICGV 15090	2490	3284	2877	4294	4150	4222	3876	3297	3587	3243	2235	2739	3326	1292	2309	2899	3147	3
2	HOVT 2017-2 ICGV 15080	2678	2956	2817	3802	3513	3658	2935	3645	3290	2863	2652	2758	2423	971	1697	2532	2844	9
3	HOVT 2017-3 ICGV 15083	3033	3297	3165	4456	4468	4462	3076	3506	3291	2784	3784	3284	3300	1342	2321	2348	3305	2
4	HOVT 2017-4 ICGV 15074	2950	2941	2945	4832	2674	3753	2957	3509	3233	3503	2066	2784	2966	1080	2023	2405	2948	5
5	HOVT 2017-5 ICGV 15016	1832	3302	2567	4161	3362	3762	2400	3052	2726	2801	1562	2181	2345	794	1570	2678	2561	16
6	HOVT 2017-6 ICGV 15006	2370	2970	2670	4254	3079	3666	1930	2919	2424	2880	1797	2338	2681	748	1714	2584	2563	15
7	HOVT 2017-7 ICGV 15017	2154	2932	2543	4213	4288	4251	2137	3321	2729	2794	1664	2229	2175	863	1519	2812	2654	12
8	HOVT 2017-8 ICGV 15105	2135	3014	2575	4601	3073	3837	1904	3184	2544	2964	1610	2287	2525	955	1740	2347	2596	14
9	HOVT 2017-9 ICGV 15073	2484	3126	2805	3825	3403	3614	2888	3846	3367	3072	2866	2969	2764	1118	1941	3101	2939	6
10	HOVT 2017-10 ICGV 15064	2398	3457	2928	4080	3177	3629	2776	3370	3073	2856	2699	2778	2977	1135	2056	3040	2892	7
11	HOVT 2017-11 ICGV 15052	2729	3594	3162	4369	2483	3426	2601	3226	2913	2745	2050	2397	1594	913	1253	2690	2630	13
12	HOVT 2017-12 ICGV 15106	1965	3383	2674	4844	4063	4454	2607	2890	2749	4002	2009	3006	3062	1101	2081	2477	2993	4
13	HOVT 2017-13 ICGV 15095	1876	3032	2454	3079	2778	2928	2918	3024	2971	2546	1356	1951	2196	870	1533	2543	2367	17
14	HOVT 2017-14 ICGV 15035	2498	3197	2848	3808	4016	3912	2130	3428	2779	2541	1958	2250	2581	1007	1794	2839	2716	11
15	HOVT 2017-15 ICGV 15065	1897	3183	2540	3912	3658	3785	2654	3463	3059	3146	1889	2518	2673	1206	1939	3003	2768	10
16	HOVT 2017-16 ICGV 15070	2253	2816	2535	4254	3698	3976	3661	3401	3531	2527	2082	2305	2887	1030	1958	2821	2861	8
17	HOVT 2017-17 TG 37A (Check)	1814	2684	2249	4173	4057	4115	1726	2567	2146	2485	2173	2329	1004	464	734	1887	2315	18
18	HOVT 2017-18 GPBD 4 (Check)	707	1906	1307	4022	3067	3545	2522	2776	2649	2547	899	1723	1982	655	1319	1420	2108	19
19	HOVT 2017-19 ICGV 03043 (Check)	2324	3728	3026	4121	4491	4306	3825	3767	3796	2325	3272	2799	3680	1757	2718	3156	3329	1
20	HOVT 2017-20 Dh 267	885	2247	1566	3814	2083	2948	1792	3284	2538	1629	1105	1367	1209	372	790	1258	1842	22
21	HOVT 2017-21 Dh 245	821	1974	1398	4179	2517	3348	1873	3214	2543	2610	1293	1952	1579	516	1048	1312	2058	20
22	HOVT 2017-22 Dh 266	726	2030	1378	4022	2199	3111	1895	3477	2686	1405	1044	1225	1386	392	889	1345	1858	21
	G.M	2046	2956	2501	4142	3377	3759	2595	3280	2937	2739	2003	2371	2423	936	1679	2431	2650	
	S.E. Diff. Mean	219.2	243.1	231.4	244.5	344.9	298.9	272.7	291.8	282.4	242.1	77.6	179.7	206.1	178.6	192.8	117.3	241.7	
	CD at 5%	438.0	486.1	458.2	488.6	689.8	591.9	545.0	583.7	559.2	483.8	155.2	355.9	411.9	381.8	357.1	234.3	473.8	
	CV %	15.1	11.6	13.1	8.3	14.5	11.3	14.9	2.6	13.6	12.5	5.5	10.7	12.0	27.0	16.2	6.8	12.9	

* Not included in the pooled analysis as trial conducted only for one year

Table 24b: HIGH OLEIC VARIETAL TRIAL STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED

S.N.	Entry	Junagadh			Durgapura			Dharwad			Tindivanam			Tirupati			Palem *		Pooled mean (5 Ctrs)	R
		2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018		
1	HOVT 2017-1 ICGV 15090	1585	2386	1985	3094	3010	3052	2741	2215	2478	2335	1351	1843	2248	792	1520	1711	2176	3	
2	HOVT 2017-2 ICGV 15080	1891	2187	2039	2677	2441	2559	2060	2505	2282	2057	1684	1860	1681	571	1126	1550	1973	8	
3	HOVT 2017-3 ICGV 15083	2090	2395	2242	3121	2978	3049	2155	2356	2255	1826	2471	2148	2194	850	1522	1396	2243	2	
4	HOVT 2017-4 ICGV 15074	2107	2142	2124	3408	1678	2543	2080	2291	2185	2343	1271	1807	1983	644	1313	1415	1995	6	
5	HOVT 2017-5 ICGV 15016	1277	2521	1899	2982	2385	2684	1719	2225	1972	1898	1014	1456	1619	507	1063	1599	1815	13	
6	HOVT 2017-6 ICGV 15006	1572	2232	1902	2791	2255	2523	1390	2053	1722	1841	1180	1510	1898	482	1190	1445	1769	15	
7	HOVT 2017-7 ICGV 15017	1582	2263	1922	3016	3121	3068	1540	2445	1993	1777	1115	1446	1479	558	1018	1584	1890	12	
8	HOVT 2017-8 ICGV 15105	1263	2058	1660	2883	1990	2437	1249	2019	1634	1854	1038	1446	1668	578	1123	1172	1660	16	
9	HOVT 2017-9 ICGV 15073	1676	2336	2006	2445	2394	2420	2059	2634	2347	2097	1911	2004	1915	645	1280	1814	2011	4	
10	HOVT 2017-10 ICGV 15064	1678	2567	2122	2845	2196	2520	1972	2306	2139	1984	1613	1799	2069	722	1396	1585	1995	5	
11	HOVT 2017-11 ICGV 15052	1912	2527	2220	2951	1629	2290	1752	2184	1968	1714	1495	1604	1076	522	799	1510	1776	14	
12	HOVT 2017-12 ICGV 15106	1296	2244	1770	3117	2662	2889	1735	1888	1811	2597	1221	1909	2033	667	1350	1363	1946	9	
13	HOVT 2017-13 ICGV 15095	1213	2169	1691	2163	1887	2025	2018	1969	1993	1708	835	1272	1469	516	993	1604	1595	18	
14	HOVT 2017-14 ICGV 15035	1730	2424	2077	2470	2843	2656	1541	2459	2000	1775	1305	1540	1827	593	1210	1647	1897	11	
15	HOVT 2017-15 ICGV 15065	1289	2289	1789	2805	2601	2703	1769	2330	2049	2188	1204	1696	1787	726	1256	1487	1899	10	
16	HOVT 2017-16 ICGV 15070	1516	1988	1752	3058	2708	2883	2508	2303	2405	1740	1380	1560	1926	617	1271	1430	1874	7	
17	HOVT 2017-17 TG 37A (Check)	1263	2073	1668	2927	2976	2952	1228	1817	1523	1808	1480	1644	675	265	470	1012	1651	17	
18	HOVT 2017-18 GFPD 4 (Check)	347	1367	857	2879	2112	2495	1798	2132	1965	1665	589	1127	1296	374	835	681	1456	19	
19	HOVT 2017-19 ICGV 03043 (Check)	1586	2611	2098	3067	3121	3094	2710	2502	2606	1700	2058	1879	2567	1099	1833	1760	2302	1	
20	HOVT 2017-20 Dh 267	526	1622	1074	2744	1369	2057	1228	2542	1885	986	693	839	738	185	462	663	1263	21	
21	HOVT 2017-21 Dh 245	500	1381	940	2900	1772	2336	1345	2448	1897	1714	842	1278	1031	303	667	691	1424	20	
22	HOVT 2017-22 Dh 266	421	1387	904	2608	1510	2059	1319	2673	1996	901	658	779	928	199	563	628	1260	22	
	G.M	1378	2144	1761	2861	2347	2604	1814	2286	2050	1841	1290	1566	1641	564	1103	1352	1817		
	S.E. Diff. Mean	148.1	176.4	162.9	171.5	243.6	210.6	200.0	209.6	204.8	157.1	49.8	116.5	147.0	116.7	132.7	104.3	169.7		
	CD at 5%	296.0	352.8	322.5	342.7	487.2	417.1	399.6	419.3	405.6	313.9	99.5	230.7	293.8	233.4	262.8	208.3	332.7		
	CV %	15.2	11.6	13.1	8.5	14.7	11.4	15.6	13.0	14.1	12.1	5.5	10.5	12.7	29.3	17.0	10.9	13.2		

* Not included in the pooled analysis as trial conducted only for one year

Table 24c: HIGH OLEIC VARIETAL TRIAL STAGE I (Kh. 2017) AND STAGE II (Kh. 2018) POOLED

Ancillary traits

S.N.	Entry	Trait	Junagadh			Durgapura			Dharwad			Tindivanam			Tirupati			Palem *	Pooled mean (5 Ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		
1	HOVT 2017-1 ICGV 15090	PS	322	319	321	319	326	323	200	145	173	273	286	280	249	146	198	285	259
		D	122	102	112	111	112	112	-	115	115	109	110	110	111	122	117	118	113
		S	64	73	68	72	73	72	71	67	69	72	61	66	68	61	65	59	68
		HKW	36	45	40	46	45	46	55	36	46	55	30	42	32	32	32	39	41
		SMK	93	94	94	92	90	91	92	92	92	97	89	93	79	85	82	86	90
		O	54	56	55	51	55	53	54	51	52	54	55	54	-	48	48	-	52
		P	28	26	27	28	26	27	26	27	26	28	23	26	-	26	26	-	26
2	HOVT 2017-2 ICGV 15080	PS	325	316	321	310	330	320	187	164	176	258	264	261	249	139	194	325	254
		D	121	97	109	112	113	113	-	115	115	110	110	110	111	122	117	119	113
		S	71	74	72	70	70	70	70	69	69	72	63	67	69	58	64	61	68
		HKW	42	45	44	44	48	46	53	36	44	57	31	44	32	33	33	41	42
		SMK	96	91	94	93	93	93	94	94	94	94	88	91	78	87	83	88	91
		O	54	56	55	50	55	53	54	51	52	55	53	54	-	48	48	-	52
		P	28	26	27	28	26	27	25	27	26	27	23	25	-	26	26	-	26
3	HOVT 2017-3 ICGV 15083	PS	325	316	321	321	335	328	197	153	175	277	301	289	233	164	199	302	262
		D	120	99	110	112	112	112	-	110	110	109	109	109	111	122	117	111	111
		S	69	73	71	70	67	68	70	67	69	66	65	65	67	63	65	60	68
		HKW	48	45	47	48	45	47	57	38	47	52	31	42	32	34	33	40	43
		SMK	98	94	96	92	95	94	96	94	95	85	94	89	80	82	81	80	91
		O	54	55	54	51	56	53	54	47	51	54	55	55	-	47	47	-	52
		P	28	26	27	29	25	27	26	28	27	27	23	25	-	27	27	-	27
4	HOVT 2017-4 ICGV 15074	PS	328	307	318	313	328	321	183	147	165	268	294	281	249	147	198	299	256
		D	120	100	110	111	114	113	-	115	115	110	116	113	111	122	117	119	113
		S	71	73	72	71	63	67	70	65	68	67	62	64	67	60	64	59	67
		HKW	41	44	42	42	49	46	54	32	43	46	25	36	33	31	32	38	40
		SMK	94	95	94	92	93	93	94	92	93	88	84	86	80	85	83	65	90
		O	54	54	54	52	52	52	55	47	51	56	54	55	-	47	47	-	52
		P	28	26	27	28	27	28	26	29	27	24	23	24	-	26	26	-	26
5	HOVT 2017-5 ICGV 15016	PS	329	311	320	310	333	322	204	152	178	275	268	272	255	128	192	284	257
		D	116	98	107	110	110	110	-	115	115	108	115	112	111	122	117	112	112
		S	70	76	73	72	71	71	72	73	72	68	65	66	69	64	67	60	70
		HKW	49	47	48	45	43	44	52	39	45	45	32	39	30	33	32	34	41
		SMK	93	96	95	90	88	89	95	94	94	93	95	94	79	85	82	66	91
		O	54	53	53	52	52	52	55	47	51	53	56	54	-	47	47	-	52
		P	27	27	27	28	27	27	24	29	26	25	22	24	-	26	26	-	26
6	HOVT 2017-5 ICGV 15006	PS	323	318	321	318	332	325	179	137	158	273	304	288	303	136	220	275	262
		D	124	96	110	114	114	114	-	118	118	109	115	112	111	122	117	118	114
		S	66	75	71	66	73	69	72	70	71	64	66	65	71	64	68	56	69
		HKW	32	35	33	32	36	34	41	27	34	33	23	28	24	27	26	26	31
		SMK	95	92	94	93	90	92	94	94	94	91	93	92	85	82	84	66	91
		O	53	53	53	51	53	52	56	47	51	55	52	54	-	47	47	-	51
		P	27	26	27	27	26	27	24	28	26	22	24	23	-	26	26	-	26
7	HOVT 2017-7 ICGV 15017	PS	333	318	326	311	332	322	194	130	162	270	268	269	243	140	192	312	254
		D	116	97	107	113	112	113	-	118	118	108	116	112	111	122	117	119	113
		S	73	77	75	72	73	72	72	74	73	64	67	65	68	65	67	56	70
		HKW	42	59	50	44	49	47	49	40	44	39	30	35	27	33	30	33	41
		SMK	95	97	96	89	93	91	94	91	93	92	94	93	78	83	81	65	91
		O	54	52	53	52	52	52	55	50	52	53	55	54	-	50	50	-	52
		P	27	27	27	27	26	27	24	27	26	24	23	23	-	26	26	-	26
8	HOVT 2017-8 ICGV 15105	PS	326	318	322	319	330	325	173	149	161	249	267	258	261	137	199	292	253
		D	124	98	111	114	114	114	-	115	115	109	115	112	111	122	117	112	114
		S	59	68	64	63	65	64	66	63	65	63	64	64	66	61	64	50	64
		HKW	31	35	33	31	35	33	41	33	37	37	30	34	25	27	26	28	32
		SMK	97	93	95	88	87	88	92	93	93	94	91	93	75	93	84	66	90
		O	52	53	52	50	52	51	54	48	51	53	52	52	-	51	51	-	51
		P	28	27	27	29	27	28	26	27	27	27	24	25	-	25	25	-	26
9	HOVT 2017-9 ICGV 15073	PS	323	315	319	326	329	328	187	152	170	236	287	261	251	142	197	306	255
		D	121	101	111	112	112	112	-	110	110	109	114	112	111	122	117	119	112
		S	68	75	71	64	70	67	71	68	70	68	67	67	69	57	63	59	68
		HKW	37	46	42	47	40	43	52	36	44	48	35	42	33	31	32	39	41
		SMK	95	94	95	93	90	92	91	93	92	93	90	92	85	85	85	73	91
		O	54	56	55	52	53	53	55	49	52	56	56	56	-	47	47	-	52
		P	28	26	27	28	26	27	25	28	26	24	23	24	-	26	26	-	26

S.N.	Entry	Trait	Junagadh			Durgapura			Dharwad			Tindivanam			Tirupati			Palem *	Pooled mean (5 Ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		
10	HOVT 2017-10 ICGV 15064	PS	322	310	316	319	336	328	186	162	174	266	275	271	252	156	204	328	258
		D	127	102	115	112	112	112	-	118	118	110	114	112	111	122	117	118	115
		S	70	74	72	70	69	69	71	68	70	69	60	64	70	64	67	52	69
		HKW	40	56	48	47	45	46	58	36	47	57	25	41	34	37	36	38	44
		SMK	96	97	97	91	89	90	95	96	96	96	94	95	83	89	86	83	93
		O	54	55	55	52	53	52	54	52	53	56	51	54	-	49	49	-	53
		P	28	26	27	27	26	27	25	26	25	25	25	25	-	26	26	-	26
11	HOVT 2017-11 ICGV 15052	PS	329	312	321	322	333	328	168	163	166	288	285	287	227	150	189	305	258
		D	119	104	112	110	112	111	-	120	120	109	115	112	111	122	117	118	114
		S	70	70	70	68	66	67	67	68	67	62	73	68	67	58	63	56	67
		HKW	38	42	40	42	40	41	51	39	45	42	32	37	31	30	31	36	39
		SMK	92	86	89	90	94	92	97	94	96	87	90	89	81	83	82	71	89
		O	52	53	53	51	50	50	54	48	51	54	52	53	-	49	49	-	51
		P	27	26	27	28	26	27	24	28	26	24	24	24	-	26	26	-	26
12	HOVT 2017-12 ICGV 15106	PS	320	312	316	321	333	327	193	150	172	254	304	279	243	160	202	310	259
		D	125	105	115	112	113	113	-	120	120	108	116	112	111	122	117	113	115
		S	66	66	66	64	66	65	67	65	66	65	61	63	66	61	64	55	65
		HKW	31	34	32	31	32	32	41	31	36	38	24	31	25	27	26	27	31
		SMK	97	89	93	85	88	87	88	92	90	89	90	89	68	83	76	71	87
		O	51	52	51	50	51	51	55	48	51	55	53	54	-	48	48	-	51
		P	28	27	28	28	26	27	25	28	27	24	24	24	-	26	26	-	26
13	HOVT 2017-13 ICGV 15095	PS	327	321	324	315	337	326	203	150	177	252	281	267	240	143	192	277	257
		D	124	98	111	110	112	111	-	115	115	110	116	113	111	122	117	119	113
		S	65	72	68	70	68	69	69	65	67	67	62	64	67	59	63	63	66
		HKW	38	37	37	39	39	39	50	29	39	41	26	34	28	29	29	34	35
		SMK	93	92	93	91	87	89	95	93	94	95	83	89	70	85	78	75	88
		O	54	54	54	50	53	51	54	46	50	55	55	55	-	48	48	-	52
		P	28	26	27	28	26	27	24	29	26	26	23	25	-	27	27	-	26
14	HOVT 2017-14 ICGV 15035	PS	322	315	319	317	337	327	190	149	169	255	310	283	261	145	203	292	260
		D	123	96	110	109	110	110	-	115	115	110	115	113	111	122	117	120	113
		S	69	76	73	65	71	68	72	72	72	70	67	68	71	59	65	58	69
		HKW	37	36	37	35	33	34	38	28	33	38	24	31	24	25	25	25	32
		SMK	98	96	97	94	89	92	96	90	93	93	94	93	81	90	86	75	92
		O	54	55	54	52	53	53	55	49	52	54	53	53	-	50	50	-	52
		P	29	26	27	27	25	26	24	27	26	26	24	25	-	26	26	-	26
15	HOVT 2017-15 ICGV 15065	PS	319	312	316	319	326	323	180	146	163	262	284	273	230	154	192	303	253
		D	116	101	109	108	110	109	-	115	115	109	114	112	111	122	117	118	112
		S	68	72	70	72	71	71	67	67	67	70	64	67	67	61	64	50	68
		HKW	47	40	43	31	44	38	55	36	45	51	28	40	33	31	32	35	40
		SMK	95	89	92	91	92	92	89	91	90	93	97	95	78	86	82	65	90
		O	52	52	52	49	53	51	53	48	51	53	54	53	-	50	50	-	51
		P	28	26	27	29	25	27	26	28	27	28	23	26	-	26	26	-	27
16	HOVT 2017-16 ICGV 15070	PS	323	307	315	314	328	321	204	149	177	305	264	285	275	132	204	292	260
		D	117	97	107	111	112	112	-	115	115	108	115	112	111	122	117	113	112
		S	67	71	69	72	73	73	69	68	68	69	66	68	67	59	63	51	68
		HKW	33	41	37	44	47	46	57	37	47	53	29	41	31	31	31	34	40
		SMK	92	91	92	93	97	95	94	92	93	94	91	92	77	87	82	64	91
		O	54	54	54	52	54	53	55	48	51	55	54	55	-	49	49	-	52
		P	28	26	27	29	25	27	25	28	26	28	24	26	-	26	26	-	27
17	HOVT 2017-17 TG 37A (Check)	PS	315	311	313	318	328	323	179	145	162	270	274	272	219	109	164	273	247
		D	124	96	110	108	110	109	-	115	115	108	114	111	111	122	117	112	112
		S	70	77	73	70	73	72	71	71	71	73	68	70	67	56	62	54	70
		HKW	40	46	43	44	48	46	43	34	39	55	33	44	29	32	31	29	40
		SMK	96	98	97	91	94	93	94	92	93	89	95	92	63	60	62	84	87
		O	51	48	50	48	53	50	51	48	50	50	52	51	-	49	49	-	50
		P	27	28	27	28	26	27	24	27	26	27	25	26	-	26	26	-	27
18	HOVT 2017-18 GPBD 4 (Check)	PS	322	303	313	307	326	317	185	178	181	328	271	300	242	128	185	322	259
		D	121	97	109	107	109	108	-	105	105	109	115	112	111	122	117	119	110
		S	49	72	60	72	69	70	71	77	74	65	66	66	66	57	62	48	66
		HKW	30	32	31	31	28	30	37	33	35	39	26	33	21	26	24	26	30
		SMK	87	89	88	92	86	89	93	95	94	94	73	83	64	84	74	88	86
		O	52	51	52	50	53	51	53	48	50	54	51	53	-	50	50	-	51
		P	27	27	27	29	26	28	24	28	26	26	26	26	-	25	25	-	26

S.N.	Entry	Trait	Junagadh			Durgapura			Dharwad			Tindivanam			Tirupati			Palem *	Pooled mean (5 Ctrs)
			2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean	2017	2018	Mean		
19	HOVT 2017-19	PS	327	306	317	312	322	317	198	163	180	329	277	303	240	160	200	331	263
	ICGV 03043 (Check)	D	122	97	110	110	110	110	-	115	115	110	113	112	111	122	117	119	113
		S	68	70	69	74	70	72	71	66	69	73	63	68	70	62	66	56	69
		HKW	33	35	34	39	40	39	56	32	44	46	30	38	33	31	32	37	38
		SMK	91	86	89	93	85	89	95	89	92	98	91	94	80	88	84	61	90
		O	52	51	52	50	53	51	53	47	50	51	53	52	-	49	49	-	51
		P	28	27	27	30	26	28	27	28	28	28	24	26	-	26	26	-	27
20	HOVT 2017-20	PS	320	306	313	307	322	315	177	146	161	278	297	287	254	93	174	268	250
	Dh 267	D	121	100	111	112	112	112	-	110	110	109	115	112	111	122	117	112	112
		S	59	72	66	72	66	69	69	77	73	61	63	62	61	50	56	53	65
		HKW	28	32	30	40	25	33	32	30	31	36	18	27	18	26	22	24	28
		SMK	78	85	81	92	89	91	92	93	93	87	88	87	59	85	72	59	85
		O	52	51	52	50	54	52	54	50	52	54	52	53	-	52	52	-	52
		P	27	27	27	29	26	28	24	27	26	26	24	25	-	25	25	-	26
21	HOVT 2017-21	PS	320	304	312	316	321	319	185	164	174	267	303	285	237	82	160	323	250
	Dh 245	D	123	97	110	110	111	111	-	115	115	110	114	112	111	122	117	111	113
		S	61	70	65	69	71	70	72	76	74	66	65	65	66	58	62	52	67
		HKW	25	24	24	38	31	35	35	30	32	39	25	32	22	26	24	27	29
		SMK	78	80	79	90	92	91	88	93	90	94	86	90	59	85	72	55	84
		O	50	51	50	51	54	53	53	49	51	55	52	54	-	49	49	-	51
		P	27	27	27	29	26	27	26	27	27	26	25	25	-	26	26	-	27
22	HOVT 2017-22	PS	329	306	318	321	322	322	183	159	171	264	297	280	248	73	161	321	250
	Dh 266	D	123	97	110	110	112	111	-	110	110	109	114	112	111	122	117	118	112
		S	58	68	63	65	69	67	70	77	73	64	63	64	67	51	59	47	65
		HKW	20	33	27	31	27	29	31	31	31	38	20	29	20	24	22	22	27
		SMK	77	87	82	94	93	94	88	93	90	94	79	87	66	85	76	56	86
		O	53	51	52	51	54	52	53	49	51	55	52	53	-	49	49	-	51
		P	27	27	27	28	26	27	24	28	26	26	24	25	-	26	26	-	26
	Final plant stand (000/ha)																		
	GM		324	312	318	316	329	323	188	152	170	273	285	279	248	135	191	301	256
	S.E. Diff. Mean		5.4	7.0	6.2	4.6	5.7	5.2	16.0	12.8	14.5	13.3	4.6	10.0	23.1	18.0	20.7	10.0	12.7
	CD at 5%		NS	NS	NS	9.3	NS	10.3	NS	NS	NS	26.6	9.3	19.7	NS	35.9	41.0	20.1	24.8
	CV %		2.3	3.2	2.8	2.1	2.5	2.3	12.1	11.8	13.0	6.9	2.3	5.1	13.2	17.8	15.0	4.7	7.0

* Not included in the pooled analysis as trial conducted only for one year

Table No. 24d : Centre-wise Oleic and Linoleic Acid contents

SN	Entry	Junagadh (1)						Tindivanam (2)						Dharwad (3)					
		2017		2018		Mean		2017		2018		Mean		2017		2018		Mean	
		Oleic Acid	Linoleic Acid	Oleic Acid	Linoleic Acid	Oleic Acid	Linoleic Acid	Oleic Acid	Linoleic Acid	Oleic Acid	Linoleic Acid	Oleic Acid	Linoleic Acid	Oleic Acid	Linoleic Acid	Oleic Acid	Linoleic Acid	Oleic Acid	Linoleic Acid
1	HOVT 2017-1	80.39	2.74	81.02	2.38	80.70	2.56	81.00	2.61	79.48	2.62	80.24	2.61	80.43	4.21	77.35	5.43	78.89	4.82
2	HOVT 2017-2	80.31	2.56	80.56	2.91	80.44	2.74	80.08	2.99	79.27	3.45	79.67	3.22	79.57	3.40	74.68	5.72	77.13	4.56
3	HOVT 2017-3	79.85	2.55	81.31	2.57	80.58	2.56	81.10	2.47	77.31	4.94	79.20	3.71	79.71	3.45	80.69	4.81	80.20	4.13
4	HOVT 2017-4	80.33	2.63	81.24	2.27	80.78	2.45	81.16	2.42	79.74	3.54	80.45	2.98	78.32	3.74	79.79	4.22	79.06	3.98
5	HOVT 2017-5	77.93	4.57	80.78	2.92	79.35	3.74	81.29	2.82	80.34	3.05	80.81	2.93	81.61	3.80	78.75	4.90	80.18	4.35
6	HOVT 2017-6	78.34	2.96	80.32	2.47	79.33	2.71	80.92	1.89	76.17	4.77	78.54	3.33	79.66	3.22	78.68	6.58	79.17	4.90
7	HOVT 2017-7	80.44	2.54	77.04	5.39	78.74	3.97	81.36	2.63	80.19	2.86	80.77	2.75	79.41	4.05	77.30	6.21	78.35	5.13
8	HOVT 2017-8	77.37	3.56	81.08	2.66	79.23	3.11	80.80	2.50	77.08	3.97	78.94	3.24	80.27	2.63	78.00	6.87	79.13	4.75
9	HOVT 2017-9	80.58	2.73	39.01	39.33	59.80	21.03	80.67	2.64	79.00	3.75	79.83	3.19	80.33	3.38	78.44	6.88	79.38	5.13
10	HOVT 2017-10	79.82	2.50	49.07	28.12	64.45	15.31	80.95	2.27	80.36	3.69	80.66	2.98	80.30	3.28	80.43	2.65	80.37	2.97
11	HOVT 2017-11	78.22	3.52	37.72	40.87	57.97	22.20	79.94	3.36	78.67	4.11	79.30	3.74	78.95	4.58	77.12	6.21	78.03	5.39
12	HOVT 2017-12	77.56	2.78	69.08	9.73	73.32	6.25	78.93	2.78	77.09	3.57	78.01	3.18	78.38	3.31	77.33	5.63	77.86	4.47
13	HOVT 2017-13	80.06	2.52	78.81	2.64	79.43	2.58	81.39	2.59	80.45	2.57	80.92	2.58	80.11	3.06	74.63	8.85	77.37	5.96
14	HOVT 2017-14	80.29	2.83	77.41	3.00	78.85	2.92	80.32	3.00	79.40	2.64	79.86	2.82	80.02	3.05	75.25	6.12	77.64	4.59
15	HOVT 2017-15	81.53	2.49	53.20	24.15	67.36	13.32	73.00	8.40	73.28	8.98	73.14	8.69	57.44	22.96	60.68	20.35	59.06	21.65
16	HOVT 2017-16	80.83	3.60	71.67	9.35	76.25	6.48	74.05	9.22	58.76	20.75	66.41	14.99	53.77	25.36	59.83	22.85	56.80	24.10
17	HOVT 2017-17	78.45	3.05	40.90	36.96	59.67	20.01	38.14	38.96	37.75	41.25	37.94	40.10	39.80	38.13	59.34	20.17	49.57	29.15
18	HOVT 2017-18	53.58	24.83	50.56	26.46	52.07	25.65	44.82	31.79	51.04	26.78	47.93	29.28	37.05	37.90	37.57	42.27	37.31	40.08
19	HOVT 2017-19	73.46	7.08	36.78	40.91	55.12	23.99	71.93	8.65	37.16	40.69	54.55	24.67	37.32	40.38	53.56	23.98	45.44	32.18
20	HOVT 2017-20	70.29	10.01	49.99	26.69	60.14	18.35	71.06	9.56	64.85	12.57	67.95	11.07	36.54	38.88	38.06	38.81	37.30	38.84
21	HOVT 2017-21	79.88	2.55	75.35	4.27	77.62	3.41	63.66	15.59	44.58	31.19	54.12	23.39	55.20	23.68	70.97	9.81	63.08	16.75
22	HOVT 2017-22	73.44	7.03	70.65	8.44	72.05	7.73	62.17	17.33	71.76	7.76	66.97	12.55	55.28	24.09	71.46	9.00	63.37	16.54

Table No. 24d : contd.

SN	Entry	Durgapura (4)						Tirupati (5)						Palem (6)			Pooled mean (5Ctrs)			Weighted Mean		
		2017		2018		Mean		2017		2018		Mean		2017		2018		Mean		Oleic Acid	Linoleic Acid	Weighted Mean
		Oleic Acid	Linoleic Acid	Oleic Acid	Linoleic Acid	Oleic Acid	Linoleic Acid	Oleic Acid	Linoleic Acid	Oleic Acid	Linoleic Acid	Oleic Acid	Linoleic Acid	Oleic Acid	Linoleic Acid	Oleic Acid	Linoleic Acid					
1	HOVT 2017-1	62.28	16.63	80.32	3.38	71.30	10.01	81.03	3.34	78.21	4.04	79.62	3.69	80.32	3.40	78.15	4.74	78.35	4.62			
2	HOVT 2017-2	63.20	17.02	81.45	3.51	72.33	10.27	80.52	2.70	78.69	4.81	79.61	3.76	79.37	3.76	77.83	4.91	77.97	4.80			
3	HOVT 2017-3	62.79	17.95	80.15	3.75	71.47	10.85	80.40	3.20	79.15	3.52	79.77	3.36	81.45	3.05	78.24	4.92	78.54	4.75			
4	HOVT 2017-4	60.97	19.23	80.08	3.70	70.52	11.46	80.95	2.69	80.79	3.22	80.87	2.95	81.65	2.26	78.34	4.76	78.64	4.54			
5	HOVT 2017-5	61.12	18.96	80.17	3.38	70.64	11.17	82.12	2.99	78.75	3.90	80.43	3.44	81.28	3.43	78.28	5.13	78.56	4.97			
6	HOVT 2017-6	78.24	3.99	80.96	3.25	79.60	3.62	81.71	2.12	77.85	3.40	79.78	2.76	81.84	1.91	79.28	3.46	79.52	3.32			
7	HOVT 2017-7	79.01	3.54	77.05	4.19	78.03	3.86	81.18	3.12	77.68	5.58	79.43	4.35	80.28	3.38	79.07	4.01	79.18	3.95			
8	HOVT 2017-8	79.73	3.11	80.36	2.59	80.05	2.85	81.52	2.11	76.25	7.21	78.88	4.66	81.17	2.36	79.25	3.72	79.42	3.60			
9	HOVT 2017-9	78.09	4.88	80.63	3.65	79.36	4.27	80.72	3.17	78.00	4.87	79.36	4.02	80.22	3.07	75.55	7.53	75.97	7.12			
10	HOVT 2017-10	80.41	2.39	80.29	3.71	80.35	3.05	82.19	3.12	79.41	3.51	80.80	3.31	81.57	1.92	77.32	5.52	77.71	5.20			
11	HOVT 2017-11	79.73	2.62	77.82	4.31	78.77	3.46	82.10	2.03	77.89	4.23	80.00	3.13	79.25	3.87	74.82	7.58	75.22	7.25			
12	HOVT 2017-12	78.69	2.80	77.54	2.89	78.12	2.84	80.63	2.75	78.44	5.88	79.54	4.31	78.61	3.45	77.37	4.21	77.48	4.14			
13	HOVT 2017-13	55.92	23.41	79.90	2.85	67.91	13.13	80.49	2.42	78.46	4.33	79.47	3.38	80.67	3.37	77.02	5.53	77.35	5.33			
14	HOVT 2017-14	56.59	22.91	77.37	4.94	66.98	13.92	79.29	3.47	78.43	3.39	78.86	3.43	79.96	3.66	76.44	5.54	76.76	5.36			
15	HOVT 2017-15	59.04	20.16	44.25	32.64	51.65	26.40	75.40	6.63	57.43	22.65	66.42	14.64	67.28	13.93	63.53	16.94	63.87	16.67			
16	HOVT 2017-16	54.90	23.88	65.05	16.87	59.97	20.38	71.57	10.77	55.12	25.21	63.34	17.99	72.28	11.60	64.55	16.79	65.26	16.32			
17	HOVT 2017-17	52.71	26.84	38.97	39.37	45.84	33.11	61.64	17.40	42.38	35.50	52.01	26.45	37.47	38.56	49.01	29.76	47.96	30.56			
18	HOVT 2017-18	51.72	26.67	48.95	28.74	50.33	27.71	53.62	25.16	40.33	36.63	46.98	30.89	37.06	38.31	46.92	30.72	46.03	31.41			
19	HOVT 2017-19	78.05	3.71	38.82	40.07	58.43	21.89	57.27	22.04	41.49	37.19	49.38	29.61	70.31	10.31	52.58	26.47	54.19	25.00			
20	HOVT 2017-20	79.86	2.59	78.39	8.50	79.12	5.54	62.04	17.16	50.33	29.03	56.18	23.09	66.65	13.32	60.14	19.38	60.73	18.83			
21	HOVT 2017-21	80.41	2.72	55.94	21.87	68.17	12.30	73.52	7.19	57.87	20.03	65.69	13.61	53.85	24.18	65.74	13.89	64.66	14.83			
22	HOVT 2017-22	79.77	3.73	73.30	6.64	76.54	5.18	75.55	6.54	72.29	7.65	73.92	7.09	53.37	24.77	70.57	9.82	69.00	11.18			

Table 24e: Past performance of ICGV 15083 and ICGV 15090

S. No.	Entry/ Variety	Trait	AVT I 2017 (6 Cntrs.)	AVT II 2018 (5 Cntrs.)	Pooled Mean (AVT I & II)	Weighted mean	% yield increase over Weighted mean		
							TG 37A	GPBD 4	ICGV 03043
1	ICGV 15090 (entry)	P	3355	2848	3101	3124	37.3	52.7	-5.7
		K	2286	1951	2118	2133	33.9	54.0	-5.3
2	ICGV 15083 (entry)	P	3166	3279	3223	3218	41.4	57.3	-2.9
		K	2130	2210	2170	2166	36.0	56.4	-3.8
3	TG 37A (Check)	P	2181	2389	2285	2276			
		K	1485	1722	1604	1593			
4	GPBD 4 (Check)	P	2200	1861	2030	2046			
		K	1444	1315	1380	1385			
5	ICGV 03043 (Check)	P	3238	3403	3321	3313			
		K	2232	2278	2255	2253			

Table 24f: Ancillary Observations over stages

S. No.	Entry/ Variety	Trait	AVT I 2017 (6 Cntrs.)	AVT II 2018 (5 Cntrs.)	Pooled Mean (AVT I & II)	Weighted mean
1	ICGV 15090 (Entry)	D	114	112	113	113
		S	68	67	67	67
		HKW	44	38	41	41
		SMK	90	90	90	90
		O	53	53	53	53
		P	28	26	27	26
2	ICGV 15083 (Entry)	D	113	110	112	112
		S	67	67	67	67
		HKW	46	39	42	43
		SMK	88	92	90	90
		O	53	52	53	53
		P	28	26	27	27
3	TG 37A (Check)	D	113	111	112	112
		S	67	69	68	68
		HKW	40	39	39	39
		SMK	86	88	87	87
		O	50	50	50	50
		P	27	27	27	27
4	GPBD 4 (Check)	D	113	110	112	112
		S	62	68	65	65
		HKW	31	29	30	30
		SMK	86	85	86	86
		O	52	50	51	51
		P	27	26	26	26
5	ICGV 03043 (Check)	D	114	111	113	113
		S	69	66	67	68
		HKW	41	34	37	37
		SMK	86	88	87	87
		O	52	51	51	51
		P	28	26	27	27

Status of groundnut breeder seed production 2018-19

During *kharif* 2018, DAC indents to the tune of 10458.91q of breeder seeds were received for 48 groundnut varieties. Based on the availability of nucleus/breeder seed stage I, a production target of 10167.23q was assigned for 46 groundnut varieties to 21 centres. During *kharif* 2018, a total quantity of 2940.55q breeder seed could be produced. To mitigate the short fall, a compensatory programme was undertaken during *rabi*-summer 2018-19 and the anticipated production is about 6382.50q. Thus, the total expected production of groundnut breeder seeds during 2018-19 would be 9323.05q.

Table 25: Centre-wise Breeder Seed Production in *kharif* 2018 and *rabi*-summer 2018-19 (compensatory) programme

S.N.	Producing Centres	Variety	Target allotted/ BSP I (q)	Production in <i>kharif</i> 2018 (q)	Anticipated/ compensatory in <i>rabi</i> -summer 2018-19 (q)	Expected total production (q)	Surplus/ Deficit over BSP-I (q)	
1	Andhra Pradesh							
		1. ANGRAU, Kadiri	Kadiri	10.00	0.00	10.00	10.00	0.00
			Harithandhra					
			Kadiri-9	727.00	0.00	200.00	200.00	-527.00
			KADIRI-7	10.00	0.00	10.00	10.00	0.00
			Kadiri-6	4028.00	469.00	3000.00	3469.00	-559.00
		Total	4775.00	469.00	3220.00	3689.00	-1086.00	
	2. ANGRAU, Tirupati	Dharani	1164.00	300.00	864.00	1164.00	0.00	
		Narayani	173.00	80.00	93.00	173.00	0.00	
		Total	1337.00	380.00	957.00	1337.00	0.00	
	3. HIL, Hyderabad	ICGV-91114	416.00	0.00	350.00	350.00	-66.00	
		ICGV 00350	590.00	0.00	590.00	590.00	0.00	
		Total	1006.00	0.00	940.00	940.00	-66.00	
4. ICRASAT, Hyderabad	ICGS-76	0.50	0.00	0.50	0.50	0.00		
2	Gujarat							
		1. JAU, Junagadh	GJG-9	50.00	55.00	0.00	55.00	5.00
			GG-21	4.00	6.00	0.00	6.00	2.00
			GG-20	61.50	66.00	0.00	66.00	4.50
			GG 2	0.50	3.00	0.00	3.00	2.50
			GJG-32	40.00	35.00	25.00	60.00	20.00
			GJG-31	30.00	16.00	20.00	36.00	6.00
			Total	186.00	181.00	45.00	226.00	40.00
	2. DGR, Junagadh	Girnar-3	50.00	90.00	0.00	90.00	40.00	
		Girnar-2	4.00	42.00	0.00	42.00	38.00	
		Total	54.00	132.00	0.00	132.00	78.00	
	3	Jharkhand						
			1. BAU, Kanke	BIRSA BOLD-1	64.18	4.00	0.00	4.00
4	Karnataka							
		1. UAS, Bangalore	GKVK 5	275.00	0.00	0.00	0.00	-275.00
			KCG 6	275.00	0.00	0.00	0.00	-275.00
	Total	550.00	0.00	0.00	0.00	-550.00		

	2. UAS, Dharwad	G 2-52	150.50	700.00	150.00	850.00	699.50	
		GPBD 5	95.85	50.00	70.00	120.00	24.15	
		TG-39	10.50	10.00	8.00	18.00	7.50	
		Vasundhara	2.00	5.00	0.00	5.00	3.00	
		Vikas (GPBD-4)	490.00	665.00	0.00	665.00	175.00	
		TG-37A	96.50	75.00	30.00	105.00	8.50	
		TAG-24	271.40	45.00	260.00	305.00	33.60	
		Total	1116.75	1550.00	518.00	2068.00	951.25	
	3. UAS, Raichur	Vijetha	100.00	0.00	0.00	0.00	-100.00	
5	Maharashtra							
		1. BARC, Mumbai	TG-51	86.75	0.00	90.00	90.00	3.25
			TLG-45	20.00	0.00	20.00	20.00	0.00
			TG-38	37.50	0.00	40.00	40.00	2.50
			TPG-41	1.50	0.00	2.00	2.00	0.50
			Total	145.75	0.00	152.00	152.00	6.25
		2. MPKV, Digraj	KDG 123	50.00	3.25	0.00	3.25	-46.75
			KDG 128	50.00	13.00	0.00	13.00	-37.00
			Total	100.00	16.25	0.00	16.25	-83.75
		3. MAU, Latur	TLG-45	5.50	5.50	0.00	5.50	0.00
4. MPKV, Jalgaon	Phule Bharati	8.00	9.00	0.00	9.00	1.00		
5. MPKV, Rahuri	PHULE UNNATI	8.50	10.00	10.00	20.00	11.50		
6	Odisha							
		1. OUAT, Bhubneshwar	ICGV-91114	500.00	0.00	500.00	500.00	0.00
7	Punjab							
		1. PAU, Ludhiana	SG-99	1.05	2.00	0.00	2.00	0.95
8	Rajasthan							
		1. SKNAU, Durgapura	Raj Mungfali - 3	38.00	27.20	0.00	27.20	-10.80
			Raj Mungfali - 2	20.00	17.40	0.00	17.40	-2.60
			Raj Mongfali-1	50.00	43.80	0.00	43.80	-6.20
			RG 425	10.00	8.40	0.00	8.40	-1.60
			Total	118.00	96.80	0.00	96.80	-21.20
		2. SKRAU, Bikaner	HNG-123	55.00	60.00	0.00	60.00	5.00
			HNG-69	10.00	12.00	0.00	12.00	2.00
			Mallika	1.00	1.00	0.00	1.00	0.00
			Total	66.00	73.00	0.00	73.00	7.00
9	Tamil Nadu							
		1. TNAU, Coimbatore	CO-7	20.00	0.00	40.00	40.00	20.00
10	Uttar Pradesh							
		1. CSAUAT, Mainpuri	Divya	5.00	12.00	0.00	12.00	7.00
		G. TOTAL	10167.23	2940.55	6382.50	9323.05	-844.18	