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Table S1: PAW for experiment 1 and 2 and both experiments.

Means among all 60 genotypes. PAW = plant available water

	experiment 1		experiment 2		both experiments	
DAT	control	stress	control	stress	control	stress
1	78.3	77.6	68.8	70.8	73.5	74.2
2	75.7	75.2	70.5	70.4	73.1	72.8
3	73.3	72.8	70.0	70.0	71.7	71.4
4	71.6	71.4	69.9	69.9	70.7	70.6
5	70.7	70.8	69.8	69.9	70.2	70.3
6	70.4	70.5	69.8	69.8	70.1	70.2
7	70.4	70.4	69.9	69.9	70.1	70.1
8	70.7	61.3	69.7	65.3	70.2	63.3
9	70.6	54.8	77.5	61.2	74.0	58.0
10	70.6	48.4	78.2	57.0	74.4	52.7
11	70.6	42.7	78.3	52.6	74.5	47.6
12	70.7	37.5	78.3	48.7	74.5	43.1
13	70.7	32.7	78.3	44.7	74.5	38.7
14	70.5	29.7	78.3	41.7	74.4	35.7
15	70.8	25.6	78.0	37.4	74.4	31.5
16	70.6	23.1	78.1	34.0	74.3	28.6
17	70.7	20.7	78.1	31.1	74.4	25.9
18	70.7	18.6	78.0	28.5	74.4	23.5
19	70.6	17.0	77.9	26.1	74.3	21.5
20	70.5	15.6	77.9	23.8	74.2	19.7
21	70.5	14.4	78.0	22.1	74.3	18.2
22	70.4	13.5	77.4	19.6	73.9	16.5
23	70.4	12.7	77.3	17.8	73.9	15.3
24	70.5	11.9	77.2	16.1	73.8	14.0
25	70.2	11.4	77.3	14.8	73.8	13.1
26	70.1	11.1	77.5	13.9	73.8	12.5
27	70.1	10.8	76.4	12.4	73.2	11.6
28	70.0	10.7	77.5	12.0	73.8	11.3
29	69.1	10.5	68.6	33.1	68.9	21.8
30	69.0	67.5	67.8	64.3	68.4	65.9
31	69.3	69.9	68.0	68.7	68.6	69.3
32	69.1	69.9	67.7	69.1	68.4	69.5
33	68.8	69.9	67.6	69.0	68.2	69.5
34	68.8	69.8	67.1	68.8	68.0	69.3
35	69.1	69.9	68.3	69.2	68.7	69.6
36	69.0	69.9	66.9	68.5	67.9	69.2

37	68.6	69.7	66.8	68.4	67.7	69.1
38	68.9	69.8	66.8	68.3	67.9	69.1
39	68.7	69.8	66.5	67.9	67.6	68.8
40	68.6	69.7	67.0	68.2	67.7	68.8
41	68.4	69.6	67.5	68.7	68.0	69.1
42	68.9	69.7	66.3	67.8	67.6	68.8

Table S2: Descriptive statistics of image-derived traits for all genotypes and *desi* and *kabuli*.

Based on BLUEs across both experiments and all 60 genotypes. q1= Quantile 25%; q3= Quantile 75%; sd=standard deviation. Loss [%] = (1-(stress/control))*100

trait	DAT	chickpea	treatment	min	q1	median	mean	q3	max	sd
EB	7	all	control	1.83	3.5	4.23	**4.42**	5.32	7.71	1.35
EB	7	all	stress	1.92	3.27	4.6	**4.45**	5.11	8.58	1.47
EB	7	all	loss	-4.92	6.57	-8.75	**-0.68**	3.95	-11.28	-8.89
EB	7	*desi*	control	1.83	2.89	3.56	**3.5**	4.12	5.32	0.83
EB	7	*desi*	stress	1.92	2.98	3.42	**3.61**	4.39	5.86	1.02
EB	7	*desi*	loss	-4.92	-3.11	3.93	**-3.14**	-6.55	-10.15	-22.89
EB	7	*kabuli*	control	3.53	4.5	5.28	**5.33**	5.94	7.71	1.14
EB	7	*kabuli*	stress	2.82	4.67	4.99	**5.29**	6.13	8.58	1.37
EB	7	*kabuli*	loss	20.11	-3.78	5.49	**0.75**	-3.20	-11.28	-20.18
EB	28	all	control	45.94	62.06	85.99	**85.15**	107.23	148.21	26.24
EB	28	all	stress	12.69	16.48	18.13	**18.55**	21.19	27.2	3.11
EB	28	all	loss	72.38	73.45	78.92	**78.21**	80.24	81.65	88.15
EB	28	*desi*	control	45.94	52.57	66.89	**70.53**	85.42	115.11	20.46
EB	28	*desi*	stress	12.69	14.97	16.99	**17.07**	18.72	22.23	2.7
EB	28	*desi*	loss	72.38	71.52	74.60	**75.80**	78.08	80.69	86.80
EB	28	*kabuli*	control	59.3	85.36	96.67	**99.78**	116.41	148.21	23.24
EB	28	*kabuli*	stress	16.07	17.77	19.52	**20.02**	22.28	27.2	2.79
EB	28	*kabuli*	loss	72.90	79.18	79.81	**79.94**	80.86	81.65	87.99
EB	42	all	control	85.76	169.67	214.89	**214.7**	258.24	344.13	60.78
EB	42	all	stress	28.17	50.92	64.45	**63.56**	74.69	98.23	16.43
EB	42	all	loss	67.15	69.99	70.01	**70.40**	71.08	71.46	72.97
EB	42	*desi*	control	85.76	146.71	169.81	**182.1**	201.18	333.96	57.15
EB	42	*desi*	stress	28.17	46.3	52.13	**56.42**	68.61	98.23	17.38
EB	42	*desi*	loss	67.15	68.44	69.30	**69.02**	65.90	70.59	69.59

EB	42	*kabuli*	control	152.84	221.61	246.67	**247.3**	273.52	344.13	45.27
EB	42	*kabuli*	stress	42.76	61.6	72.13	**70.69**	75.81	93.48	11.9
EB	42	*kabuli*	loss	72.02	72.20	70.76	**71.42**	72.28	72.84	73.71
MCV	7	all	control	0.266	0.275	0.279	**0.279**	0.283	0.295	0.007
MCV	7	all	stress	0.263	0.277	0.28	**0.281**	0.286	0.298	0.007
MCV	7	all	loss	1.13	-0.73	-0.36	**-0.72**	-1.06	-1.02	0.00
MCV	7	*desi*	control	0.267	0.272	0.278	**0.279**	0.284	0.295	0.008
MCV	7	*desi*	stress	0.264	0.276	0.282	**0.282**	0.288	0.295	0.008
MCV	7	*desi*	loss	1.12	-1.47	-1.44	**-1.08**	-1.41	0.00	0.00
MCV	7	*kabuli*	control	0.266	0.276	0.28	**0.28**	0.283	0.292	0.006
MCV	7	*kabuli*	stress	0.263	0.277	0.28	**0.28**	0.283	0.298	0.007
MCV	7	*kabuli*	loss	1.13	-0.36	0.00	**0.00**	0.00	-2.05	-16.67
MCV	28	all	control	0.265	0.275	0.28	**0.28**	0.284	0.297	0.006
MCV	28	all	stress	0.286	0.294	0.299	**0.298**	0.301	0.308	0.005
MCV	28	all	loss	-7.92	-6.91	-6.79	**-6.43**	-5.99	-3.70	16.67
MCV	28	*desi*	control	0.272	0.278	0.282	**0.281**	0.285	0.297	0.006
MCV	28	*desi*	stress	0.291	0.294	0.297	**0.297**	0.3	0.308	0.004
MCV	28	*desi*	loss	-6.99	-5.76	-5.32	**-5.69**	-5.26	-3.70	33.33
MCV	28	*kabuli*	control	0.265	0.274	0.278	**0.278**	0.282	0.286	0.006
MCV	28	*kabuli*	stress	0.286	0.294	0.299	**0.298**	0.302	0.306	0.006
MCV	28	*kabuli*	loss	-7.92	-7.30	-7.55	**-7.19**	-7.09	-6.99	0.00
MCV	42	all	control	0.261	0.274	0.277	**0.277**	0.281	0.29	0.007
MCV	42	all	stress	0.244	0.273	0.278	**0.276**	0.281	0.29	0.008
MCV	42	all	loss	6.51	0.36	-0.36	**0.36**	0.00	0.00	-14.29
MCV	42	*desi*	control	0.267	0.275	0.277	**0.278**	0.281	0.29	0.006
MCV	42	*desi*	stress	0.263	0.275	0.279	**0.278**	0.283	0.29	0.007
MCV	42	*desi*	loss	1.50	0.00	-0.72	**0.00**	-0.71	0.00	-16.67
MCV	42	*kabuli*	control	0.261	0.271	0.277	**0.277**	0.281	0.29	0.008
MCV	42	*kabuli*	stress	0.244	0.272	0.278	**0.275**	0.281	0.283	0.009
MCV	42	*kabuli*	loss	6.51	-0.37	-0.36	**0.72**	0.00	2.41	-12.50

PH	7	all	control	182.97	213.93	233.81	**237.02**	256.01	317.77	31.26
PH	7	all	stress	176.91	215.59	235.37	**237.26**	252.12	334.52	31.72
PH	7	all	loss	3.31	-0.78	-0.67	**-0.10**	1.52	-5.27	-1.47
PH	7	*desi*	control	182.97	207.69	228.5	**230.85**	253.92	302.11	29.71
PH	7	*desi*	stress	176.91	210.27	231.5	**229.37**	244.68	286.54	27.06
PH	7	*desi*	loss	3.31	-1.24	-1.31	**0.64**	3.64	5.15	8.92
PH	7	*kabuli*	control	189.22	220.93	240.44	**243.19**	257.98	317.77	32.03
PH	7	*kabuli*	stress	194.92	223.94	240.76	**245.16**	260.48	334.52	34.44
PH	7	*kabuli*	loss	-3.01	-1.36	-0.13	**-0.81**	-0.97	-5.27	-7.52
PH	28	all	control	380.2	493.1	539.62	**544.82**	589.09	697.22	67.18
PH	28	all	stress	291.66	335.68	361.64	**367.9**	379.32	561.46	54.7
PH	28	all	loss	23.29	31.92	32.98	**32.47**	35.61	19.47	18.58
PH	28	*desi*	control	380.2	479.07	515.64	**524.12**	575.27	697.22	67.58
PH	28	*desi*	stress	291.66	328.73	357.27	**361.19**	379.42	561.46	53.73
PH	28	*desi*	loss	23.29	31.38	30.71	**31.09**	34.04	19.47	20.49
PH	28	*kabuli*	control	445.1	513.07	561.15	**565.52**	615.76	671.13	61.06
PH	28	*kabuli*	stress	301.47	337.01	364.52	**374.62**	379.09	505.74	55.74
PH	28	*kabuli*	loss	32.27	34.32	35.04	**33.76**	38.44	24.64	8.71
PH	42	all	control	454.4	638.33	683.08	**695.9**	743.27	908.82	88.93
PH	42	all	stress	335.11	436.31	472.96	**484.92**	499.08	716.27	81.67
PH	42	all	loss	26.25	31.65	30.76	**30.32**	32.85	21.19	8.16
PH	42	*desi*	control	454.4	615.11	653.74	**670.17**	727.24	886.55	90.94
PH	42	*desi*	stress	335.11	428.59	471.49	**473.3**	489.07	716.27	81.62
PH	42	*desi*	loss	26.25	30.32	27.88	**29.38**	32.75	19.21	10.25
PH	42	*kabuli*	control	597.33	671.05	697.48	**721.63**	753.39	908.82	80.31
PH	42	*kabuli*	stress	387.29	437.23	472.96	**496.53**	530.63	708.31	81.42
PH	42	*kabuli*	loss	35.16	34.84	32.19	**31.19**	29.57	22.06	-1.38
r2g	7	all	control	0.018	0.025	0.027	**0.028**	0.03	0.043	0.005
r2g	7	all	stress	0.016	0.025	0.028	**0.028**	0.03	0.041	0.005
r2g	7	all	loss	11.11	0.00	-3.70	**0.00**	0.00	4.65	0.00

r2g	7	*desi*	control	0.024	0.026	0.029	**0.03**	0.032	0.043	0.005
r2g	7	*desi*	stress	0.019	0.025	0.028	**0.029**	0.032	0.041	0.005
r2g	7	*desi*	loss	20.83	3.85	3.45	**3.33**	0.00	4.65	0.00
r2g	7	*kabuli*	control	0.018	0.023	0.025	**0.026**	0.028	0.035	0.004
r2g	7	*kabuli*	stress	0.016	0.024	0.027	**0.026**	0.029	0.035	0.004
r2g	7	*kabuli*	loss	11.11	-4.35	-8.00	**0.00**	-3.57	0.00	0.00
r2g	28	all	control	0.003	0.004	0.005	**0.005**	0.006	0.011	0.002
r2g	28	all	stress	0.008	0.011	0.013	**0.013**	0.015	0.021	0.003
r2g	28	all	loss	-166.67	-175.00	-160.00	**-160.00**	-150.00	-90.91	-50.00
r2g	28	*desi*	control	0.003	0.005	0.006	**0.006**	0.007	0.011	0.002
r2g	28	*desi*	stress	0.008	0.012	0.015	**0.014**	0.016	0.021	0.003
r2g	28	*desi*	loss	-166.67	-140.00	-150.00	**-133.33**	-128.57	-90.91	-50.00
r2g	28	*kabuli*	control	0.003	0.004	0.005	**0.005**	0.005	0.006	0.001
r2g	28	*kabuli*	stress	0.008	0.011	0.012	**0.012**	0.014	0.019	0.003
r2g	28	*kabuli*	loss	-166.67	-175.00	-140.00	**-140.00**	-180.00	-216.67	-200.00
r2g	42	all	control	0.002	0.003	0.004	**0.004**	0.004	0.006	0.001
r2g	42	all	stress	0.003	0.005	0.005	**0.006**	0.007	0.011	0.002
r2g	42	all	loss	-50.00	-66.67	-25.00	**-50.00**	-75.00	-83.33	-100.00
r2g	42	*desi*	control	0.002	0.003	0.004	**0.004**	0.005	0.006	0.001
r2g	42	*desi*	stress	0.003	0.005	0.006	**0.006**	0.007	0.011	0.002
r2g	42	*desi*	loss	-50.00	-66.67	-50.00	**-50.00**	-40.00	-83.33	-100.00
r2g	42	*kabuli*	control	0.002	0.003	0.003	**0.003**	0.004	0.004	0.001
r2g	42	*kabuli*	stress	0.004	0.005	0.005	**0.005**	0.005	0.011	0.001
r2g	42	*kabuli*	loss	-100.00	-66.67	-66.67	**-66.67**	-25.00	-175.00	0.00
y2g	7	all	control	0.063	0.074	0.079	**0.083**	0.089	0.136	0.013
y2g	7	all	stress	0.051	0.072	0.082	**0.08**	0.088	0.112	0.011
y2g	7	all	loss	19.05	2.70	-3.80	**3.61**	1.12	17.65	15.38
y2g	7	*desi*	control	0.071	0.078	0.086	**0.088**	0.095	0.136	0.013
y2g	7	*desi*	stress	0.067	0.077	0.084	**0.084**	0.09	0.112	0.01
y2g	7	*desi*	loss	5.63	1.28	2.33	**4.55**	5.26	17.65	23.08

y2g	7	*kabuli*	control	0.063	0.071	0.075	**0.077**	0.083	0.103	0.01
y2g	7	*kabuli*	stress	0.051	0.07	0.077	**0.077**	0.088	0.093	0.011
y2g	7	*kabuli*	loss	19.05	1.41	-2.67	**0.00**	-6.02	9.71	-10.00
y2g	28	all	control	0.019	0.026	0.028	**0.029**	0.032	0.047	0.006
y2g	28	all	stress	0.042	0.06	0.069	**0.069**	0.078	0.115	0.015
y2g	28	all	loss	-121.05	-130.77	-146.43	**-137.93**	-143.75	-144.68	-150.00
y2g	28	*desi*	control	0.023	0.028	0.032	**0.032**	0.036	0.047	0.006
y2g	28	*desi*	stress	0.042	0.066	0.072	**0.073**	0.083	0.115	0.017
y2g	28	*desi*	loss	-82.61	-135.71	-125.00	**-128.13**	-130.56	-144.68	-183.33
y2g	28	*kabuli*	control	0.019	0.024	0.026	**0.026**	0.028	0.036	0.004
y2g	28	*kabuli*	stress	0.045	0.057	0.065	**0.065**	0.074	0.092	0.011
y2g	28	*kabuli*	loss	-136.84	-137.50	-150.00	**-150.00**	-164.29	-155.56	-175.00
y2g	42	all	control	0.022	0.027	0.029	**0.029**	0.031	0.042	0.004
y2g	42	all	stress	0.024	0.033	0.037	**0.038**	0.042	0.064	0.008
y2g	42	all	loss	-9.09	-22.22	-27.59	**-31.03**	-35.48	-52.38	-100.00
y2g	42	*desi*	control	0.022	0.028	0.031	**0.031**	0.033	0.042	0.005
y2g	42	*desi*	stress	0.027	0.034	0.04	**0.04**	0.046	0.064	0.009
y2g	42	*desi*	loss	-22.73	-21.43	-29.03	**-29.03**	-39.39	-52.38	-80.00
y2g	42	*kabuli*	control	0.022	0.026	0.028	**0.028**	0.029	0.031	0.003
y2g	42	*kabuli*	stress	0.024	0.032	0.035	**0.036**	0.041	0.047	0.005
y2g	42	*kabuli*	loss	-9.09	-23.08	-25.00	**-28.57**	-41.38	-51.61	-66.67

Table S3: Descriptive statistics of fresh and dry weight.

Based on BLUEs across both experiments and all 60 genotypes. Fresh and dry weight in gram; Loss [%] = (1-(stress/control))*100. q1= Quantile 25%; q3= Quantile 75%; sd=standard deviation.

	control		**stress**		**loss**	
	fresh	**dry**	**fresh**	**dry**	**fresh**	**dry**
min	35.33	5.43	14.05	1.93	60.23	64.46
q1	44.42	7.18	19.31	2.92	56.53	59.33
median	55.35	8.8	21.48	3.23	61.19	63.30
mean	53.99	8.84	21.48	3.25	60.21	63.24
q3	61.97	10.55	23.77	3.61	61.64	65.78
max	77.28	12.58	27.83	4.23	63.99	66.38

Table S4: Descriptive statistics of RGR.

Based on BLUEs across both experiments and all 60 genotypes.

RGR [voxel /DAT] = relative growth rate = $(\ln(EB_i)-\ln(EB_{i-1}))/(DAT_i-DAT_{i-1})$

	stress		control	
DAT	EB	RGR	EB	RGR
1	1.09	NA	1.09	NA
2	2.18	0.69	2.17	0.69
3	2.62	0.18	2.60	0.18
4	3.18	0.20	3.20	0.21
5	3.61	0.13	3.57	0.11
6	3.94	0.09	3.87	0.08
7	4.45	0.12	4.42	0.13
8	5.74	0.25	5.79	0.27
9	6.75	0.16	6.82	0.16
10	7.61	0.12	7.95	0.15
11	8.75	0.14	9.37	0.16
12	9.86	0.12	10.72	0.13
13	10.85	0.10	12.74	0.17
14	11.81	0.08	14.87	0.15
15	12.76	0.08	17.00	0.13
16	13.11	0.03	18.69	0.09
17	14.12	0.07	21.98	0.16
18	15.00	0.06	26.19	0.18
19	15.94	0.06	30.69	0.16
20	16.47	0.03	35.35	0.14
21	17.29	0.05	40.15	0.13
22	16.74	-0.03	43.27	0.07
23	17.52	0.05	50.51	0.15
24	17.37	-0.01	55.31	0.09
25	17.50	0.01	60.55	0.09

26	18.67	0.06	70.25	0.15
27	17.55	-0.06	75.68	0.07
28	18.55	0.06	85.15	0.12
29	17.53	-0.06	88.83	0.04
30	21.30	0.19	98.38	0.10
31	23.55	0.10	108.75	0.10
32	25.72	0.09	117.26	0.08
33	28.20	0.09	129.29	0.10
34	30.34	0.07	134.51	0.04
35	33.49	0.10	145.15	0.08
36	37.35	0.11	156.21	0.07
37	41.42	0.10	164.74	0.05
38	45.51	0.09	178.28	0.08
39	49.46	0.08	190.28	0.07
40	54.58	0.10	204.61	0.07
41	59.90	0.09	208.08	0.02
42	63.56	0.06	214.70	0.03

Table S5: Descriptive statistics of WUE for drought phases and chickpea types.

Based on BLUEs across both experiments and all 60 genotypes or *desi* and *kabuli*; q1= Quantile 25%; q3= Quantile 75%; sd=standard deviation.

chickpea	phase	treatment	min	q1	median	mean	q3	max	sd
all	**DA**	control	0.019	0.033	0.037	**0.038**	0.042	0.058	0.008
		stress	0.025	0.035	0.039	**0.039**	0.044	0.061	0.007
all	**DR**	control	0.015	0.032	0.039	**0.040**	0.046	0.068	0.011
		stress	0.012	0.022	0.026	**0.026**	0.030	0.043	0.007
all	**DT**	control	0.022	0.029	0.033	**0.033**	0.038	0.048	0.006
		stress	0.215	7.603	11.699	**9.630**	12.831	16.765	5.455
desi	**DA**	control	0.019	0.030	0.035	**0.036**	0.041	0.052	0.008
		stress	0.025	0.032	0.036	**0.037**	0.042	0.052	0.007
kabuli	**DA**	control	0.029	0.036	0.039	**0.041**	0.045	0.058	0.007
		stress	0.029	0.038	0.041	**0.042**	0.044	0.061	0.006
desi	**DR**	control	0.015	0.031	0.038	**0.038**	0.046	0.061	0.011
		stress	0.012	0.018	0.023	**0.024**	0.028	0.038	0.007
kabuli	**DR**	control	0.025	0.035	0.041	**0.043**	0.048	0.068	0.011
		stress	0.016	0.026	0.027	**0.028**	0.030	0.043	0.005
desi	**DT**	control	0.022	0.026	0.030	**0.030**	0.034	0.041	0.005
		stress	0.587	10.829	12.025	**11.495**	13.195	15.713	3.466
kabuli	**DT**	control	0.025	0.033	0.036	**0.036**	0.039	0.048	0.005
		stress	0.215	0.595	10.943	**7.765**	12.494	16.765	6.428

Table S6: Tukey`s test of WUE in different drought phases and for desi and kabuli under drought phase.

ANOVA describes whether there was a significant influence in general of the WUE and the phase / *desi* and *kabuli*, the WUE and the two treatments, and the phase / *desi* and *kabuli* and the treatments.

	combination	**diff**	**p adj**	**ANOVA**
phase	DR-DA	-0.006	1.000	***
	DT-DA	4.833	**0.000**	***
	DT-DR	4.839	**0.000**	***
	stress-control	3.186	**0.000**	***
	DR:control-DA:control	0.002	1.000	***
	DT:control-DA:control	-0.005	1.000	***
	DA:stress-DA:control	0.001	1.000	***
	DR:stress-DA:control	-0.012	1.000	***
	DT:stress-DA:control	9.592	**0.000**	***
	DT:control-DR:control	-0.007	1.000	***
	DA:stress-DR:control	-0.001	1.000	***
	DR:stress-DR:control	-0.014	1.000	***
	DT:stress-DR:control	9.590	**0.000**	***
	DA:stress-DT:control	0.006	1.000	***
	DR:stress-DT:control	-0.007	1.000	***
	DT:stress-DT:control	9.597	**0.000**	***
	DR:stress-DA:stress	-0.013	1.000	***
	DT:stress-DA:stress	9.591	**0.000**	***
	DT:stress-DR:stress	9.604	**0.000**	***
	DT:stress-DR:stress	9.604	**0.000**	***
DT	***kabuli- desi***	-1.797	**0.009**	**
	stress-control	9.612	**0.000**	***
	kabuli:control- *desi*:control	0.005	1.000	**
	desi:stress- *desi*:control	11.464	**0.000**	**
	kabuli:stress- *desi:c*ontrol	7.735	**0.000**	**
	desi:stress- *kabuli*:control	11.459	**0.000**	**
	kabuli:stress- *kabuli*:control	7.729	**0.000**	**
	kabuli:stress- *desi*:stress	-3.730	**0.001**	**
DR	***kabuli - desi***	0.005	**0.004**	**
	stress-control	-0.014	**0.000**	***
	kabuli:control- *desi*:control	0.004	0.204	
	desi:stress- *desi*:control	-0.015	**0.000**	
	kabuli:stress- *desi*:control	-0.010	**0.000**	
	desi:stress- *kabuli*:control	-0.019	**0.000**	
	kabuli:stress- *kabuli*:control	-0.014	**0.000**	

	kabuli:stress- *desi*:stress	0.005	0.146	
DA	***kabuli - desi***	0.005	**0.000**	***
	stress-control	0.001	0.313	
	kabuli:control- *desi*:control	0.005	**0.034**	
	desi:stress- *desi*:control	0.002	0.841	
	kabuli:stress- *desi*:control	0.006	**0.005**	
	desi:stress- *kabuli*:control	-0.004	0.218	
	kabuli:stress- *kabuli*:control	0.001	0.931	
	kabuli:stress- *desi*:stress	0.005	0.056	

Table S7: Descriptive statistics of Chlorophyll Fluorescence traits. Based on BLUEs across both experiments and all genotypes or *desi* and *kabuli* genotypes.
Loss [%] = (1-(stress/control))*100. q1= Quantile 25%; q3= Quantile 75%; sd=standard deviation. ΦPSII = operating efficiency of photosystem II under high and low light condition. Ratio= ΦPSIIl / ΦPSII h

ΦPSII	DAT	chickpea	treatment	min	q1	median	mean	q3	max	sd
high	6	all	control	0.41	0.46	0.47	**0.47**	0.48	0.5	0.02
high	6	all	stress	0.42	0.47	0.47	**0.47**	0.48	0.51	0.02
high	6	all	loss	-2.44	-2.17	0.00	**0.00**	0.00	-2.00	0.00
high	6	*desi*	control	0.42	0.46	0.47	**0.47**	0.48	0.49	0.02
high	6	*desi*	stress	0.43	0.46	0.47	**0.47**	0.49	0.5	0.02
high	6	*desi*	loss	-2.38	0.00	0.00	**0.00**	-2.08	-2.04	0.00
high	6	*kabuli*	control	0.41	0.46	0.47	**0.47**	0.48	0.5	0.02
high	6	*kabuli*	stress	0.42	0.47	0.47	**0.47**	0.48	0.51	0.02
high	6	*kabuli*	loss	-2.44	-2.17	0.00	**0.00**	0.00	-2.00	0.00
high	13	all	control	0.39	0.43	0.44	**0.44**	0.46	0.48	0.02
high	13	all	stress	0.4	0.44	0.45	**0.44**	0.45	0.48	0.02
high	13	all	loss	-2.56	-2.33	-2.27	**0.00**	2.17	0.00	0.00
high	13	*desi*	control	0.39	0.44	0.44	**0.44**	0.45	0.48	0.02
high	13	*desi*	stress	0.4	0.44	0.45	**0.45**	0.46	0.48	0.02
high	13	*desi*	loss	-2.56	0.00	-2.27	**-2.27**	-2.22	0.00	0.00
high	13	*kabuli*	control	0.4	0.43	0.44	**0.44**	0.46	0.48	0.02
high	13	*kabuli*	stress	0.4	0.44	0.45	**0.44**	0.45	0.46	0.02
high	13	*kabuli*	loss	0.00	-2.33	-2.27	**0.00**	2.17	4.17	0.00
high	20	all	control	0.36	0.42	0.43	**0.43**	0.45	0.47	0.03
high	20	all	stress	0.34	0.39	0.4	**0.4**	0.42	0.44	0.02
high	20	all	loss	5.56	7.14	6.98	**6.98**	6.67	6.38	33.33
high	20	*desi*	control	0.36	0.42	0.44	**0.43**	0.45	0.47	0.03
high	20	*desi*	stress	0.36	0.39	0.4	**0.4**	0.42	0.44	0.02

high	20	*desi*	loss	0.00	7.14	9.09	**6.98**	6.67	6.38	33.33
high	20	*kabuli*	control	0.37	0.41	0.43	**0.43**	0.45	0.47	0.03
high	20	*kabuli*	stress	0.34	0.38	0.4	**0.4**	0.41	0.43	0.02
high	20	*kabuli*	loss	8.11	7.32	6.98	**6.98**	8.89	8.51	33.33
high	27	all	control	0.38	0.42	0.44	**0.44**	0.46	0.49	0.03
high	27	all	stress	0.27	0.34	0.35	**0.35**	0.38	0.41	0.03
high	27	all	loss	28.95	19.05	20.45	**20.45**	17.39	16.33	0.00
high	27	*desi*	control	0.38	0.42	0.44	**0.44**	0.46	0.49	0.03
high	27	*desi*	stress	0.31	0.34	0.35	**0.36**	0.38	0.4	0.03
high	27	*desi*	loss	18.42	19.05	20.45	**18.18**	17.39	18.37	0.00
high	27	*kabuli*	control	0.39	0.42	0.43	**0.43**	0.45	0.48	0.02
high	27	*kabuli*	stress	0.27	0.33	0.35	**0.35**	0.38	0.41	0.03
high	27	*kabuli*	loss	30.77	21.43	18.60	**18.60**	15.56	14.58	-50.00
high	34	all	control	0.35	0.41	0.43	**0.43**	0.45	0.49	0.03
high	34	all	stress	0.39	0.42	0.43	**0.43**	0.44	0.48	0.02
high	34	all	loss	-11.43	-2.44	0.00	**0.00**	2.22	2.04	33.33
high	34	*desi*	control	0.35	0.41	0.43	**0.43**	0.46	0.49	0.03
high	34	*desi*	stress	0.41	0.43	0.44	**0.44**	0.45	0.48	0.02
high	34	*desi*	loss	-17.14	-4.88	-2.33	**-2.33**	2.17	2.04	33.33
high	34	*kabuli*	control	0.36	0.41	0.42	**0.42**	0.45	0.48	0.03
high	34	*kabuli*	stress	0.39	0.41	0.43	**0.43**	0.44	0.47	0.02
high	34	*kabuli*	loss	-8.33	0.00	-2.38	**-2.38**	2.22	2.08	33.33
low	6	all	control	0.6	0.62	0.63	**0.63**	0.63	0.65	0.01
low	6	all	stress	0.6	0.62	0.62	**0.62**	0.63	0.65	0.01
low	6	all	loss	0.00	0.00	1.59	**1.59**	0.00	0.00	0.00
low	13	all	control	0.61	0.63	0.63	**0.64**	0.64	0.66	0.01
low	13	all	stress	0.62	0.64	0.64	**0.64**	0.65	0.67	0.01
low	13	all	loss	-1.64	-1.59	-1.59	**0.00**	-1.56	-1.52	0.00
low	20	all	control	0.62	0.64	0.65	**0.65**	0.65	0.67	0.01
low	20	all	stress	0.57	0.61	0.62	**0.62**	0.63	0.66	0.02

low	20	all	loss	8.06	4.69	4.62	**4.62**	3.08	1.49	-100.00
low	27	all	control	0.62	0.64	0.65	**0.65**	0.66	0.67	0.01
low	27	all	stress	0.51	0.55	0.57	**0.57**	0.58	0.61	0.02
low	27	all	loss	17.74	14.06	12.31	**12.31**	12.12	8.96	-100.00
low	34	all	control	0.61	0.63	0.64	**0.64**	0.65	0.66	0.01
low	34	all	stress	0.61	0.63	0.63	**0.63**	0.64	0.65	0.01
low	34	all	loss	0.00	0.00	1.56	**1.56**	1.54	1.52	0.00
ratio	6	all	control	1.24	1.31	1.34	**1.34**	1.36	1.53	0.06
ratio	6	all	stress	1.21	1.3	1.33	**1.33**	1.35	1.52	0.06
ratio	6	all	loss	2.42	0.76	0.75	**0.75**	0.74	0.65	0.00
ratio	13	all	control	1.31	1.39	1.44	**1.44**	1.48	1.71	0.08
ratio	13	all	stress	1.33	1.41	1.44	**1.45**	1.47	1.66	0.07
ratio	13	all	loss	-1.53	-1.44	0.00	**-0.69**	0.68	2.92	12.50
ratio	20	all	control	1.33	1.43	1.5	**1.52**	1.57	1.83	0.11
ratio	20	all	stress	1.41	1.51	1.56	**1.56**	1.61	1.81	0.09
ratio	20	all	loss	-6.02	-5.59	-4.00	**-2.63**	-2.55	1.09	18.18
ratio	27	all	control	1.27	1.41	1.49	**1.49**	1.57	1.76	0.11
ratio	27	all	stress	1.44	1.57	1.65	**1.65**	1.7	1.91	0.11
ratio	27	all	loss	-13.39	-11.35	-10.74	**-10.74**	-8.28	-8.52	0.00
ratio	34	all	control	1.27	1.41	1.48	**1.5**	1.59	1.86	0.14
ratio	34	all	stress	1.27	1.43	1.47	**1.47**	1.51	1.7	0.07
ratio	34	all	loss	0.00	-1.42	0.68	**2.00**	5.03	8.60	50.00

Table S8: Tukey's test for chlorophyll fluorescence traits

Based on BLUEs across for both experiments. ANOVA describes whether there was a significant influence of the WUE and the phase / *desi* and *kabuli*, the WUE and the two treatments, and the phase / *desi* and *kabuli* and the treatments.
ΦPSII = operating efficiency of photosystem II under high light condition.

ΦPSII	combination	diff	p adj	ANOVA
high	13-6	-0.027	**0.000**	***
	20-6	-0.055	**0.000**	***
	27-6	-0.075	**0.000**	***
	34-6	-0.039	**0.000**	***
	20-13	-0.028	**0.000**	***
	27-13	-0.048	**0.000**	***
	34-13	-0.013	**0.000**	***
	27-20	-0.020	**0.000**	***
	34-20	0.016	**0.000**	***
	34-27	0.035	**0.000**	***
	stress-control	-0.021	**0.000**	***
	13:control-6:control	-0.026	**0.000**	***
	20:control-6:control	-0.039	**0.000**	***
	27:control-6:control	-0.031	**0.000**	***
	34:control-6:control	-0.039	**0.000**	***
	6:stress-6:control	0.004	0.994	***
	13:stress-6:control	-0.024	**0.000**	***
	20:stress-6:control	-0.068	**0.000**	***
	27:stress-6:control	-0.115	**0.000**	***
	34:stress-6:control	-0.036	**0.000**	***
	20:control-13:control	-0.013	0.085	***
	27:control-13:control	-0.005	0.967	***
	34:control-13:control	-0.013	0.058	***
	6:stress-13:control	0.030	**0.000**	***
	13:stress-13:control	0.002	1.000	***
	20:stress-13:control	-0.042	**0.000**	***
	27:stress-13:control	-0.089	**0.000**	***
	34:stress-13:control	-0.010	0.365	***
	27:control-20:control	0.007	0.764	***
	34:control-20:control	-0.001	1.000	***
	6:stress-20:control	0.043	**0.000**	***
	13:stress-20:control	0.015	**0.024**	***
	20:stress-20:control	-0.029	**0.000**	***
	27:stress-20:control	-0.076	**0.000**	***
	34:stress-20:control	0.003	1.000	***
	34:control-27:control	-0.008	0.677	***
	6:stress-27:control	0.035	**0.000**	***

	13:stress-27:control	0.007	0.816	***
	20:stress-27:control	-0.037	**0.000**	***
	27:stress-27:control	-0.083	**0.000**	***
	34:stress-27:control	-0.005	0.984	***
	6:stress-34:control	0.043	**0.000**	***
	13:stress-34:control	0.015	**0.015**	***
	20:stress-34:control	-0.029	**0.000**	***
	27:stress-34:control	-0.075	**0.000**	***
	34:stress-34:control	0.003	0.999	***
	13:stress-6:stress	-0.028	**0.000**	***
	20:stress-6:stress	-0.072	**0.000**	***
	27:stress-6:stress	-0.119	**0.000**	***
	34:stress-6:stress	-0.040	**0.000**	***
	20:stress-13:stress	-0.044	**0.000**	***
	27:stress-13:stress	-0.091	**0.000**	***
	34:stress-13:stress	-0.012	0.150	***
	27:stress-20:stress	-0.047	**0.000**	***
	34:stress-20:stress	0.032	**0.000**	***
	34:stress-27:stress	0.079	**0.000**	***
DAT 6	***kabuli-desi***	-0.005	0.112	
	stress-control	-0.021	**0.000**	***
DAT 13	***kabuli-desi***	-0.001	0.766	
	stress-control	0.002	0.601	
DAT 20	***kabuli-desi***	-0.007	0.137	
	stress-control	-0.029	**0.000**	***
DAT 27	***kabuli-desi***	-0.009	0.087	
	stress-control	-0.083	**0.000**	***
DAT 34	***kabuli-desi***	-0.011	**0.026**	*
	stress-control	0.003	0.485	

Table S9: Correlations of EB with further image-derived traits during the period of DA, DR and DT.
EB [voxel e-05]; PH [mm]; MCV [hue]; R2G [%]; Y2G [%].

The coefficient of correlation *r* and the level of significance *p-value* (*** > 0.001) are displayed. Dark red field means a high positive coefficient of correlation. A dark blue field means a high negative coefficient of correlation.

Based on BLUEs across both experiments and all 60 genotypes. DA=drought adaptability: DAT 8-42; DR=drought recovery DAT 29-42; DT=drought tolerance DAT 8-28.

	DA				**DR**				**DT**			
	control		stress		control		stress		control		stress	
Correlation of EB with	*r*	*p-value*	*r*	*p-value*	*r*	*p-value*	*r*	*p-value*	*r*	*p-value*	*r*	*p-value*
PH	0.87	***	0.71	***	0.7	***	0.56	***	0.83	***	0.58	***
MCV	-0.64	***	-0.61	***	-0.47	***	-0.72	***	-0.54	***	0.53	***
R2G	-0.69	***	-0.74	***	-0.54	***	-0.73	***	-0.76	***	-0.76	***
Y2G	-0.61	***	-0.54	***	-0.0052		-0.74	***	-0.74	***	-0.33	***

Table S10: Correlation between ΦPSIIh and image-derived traits.

Based on both treatments and BLUEs across both experiments of all 60 genotypes. DAT 6 = 1 day before drought, DAT 13 = 7 days of drought, DAT 20 = 13 days of drought, DAT 27 = 19 days of drought, DAT 34 = 6 days of recovery. ϕPSIIh = operating efficiency of photosystem II under high light conditions.

Dark red field means a high positive coefficient of correlation *r*. A dark blue field means a high negative coefficient of correlation *r*. Significant correlations with a *p-value* < 0.05 are highlighted in green.

	DAT 6		DAT 13		DAT 20		DAT 27		DAT 34	
	r	*p-value*	*r*	*p-value*	*r*	*p-value*	*r*	*p-value*	*r*	*p-value*
EB	0.22	0.014	0.08	0.388	0.32	0.000	0.69	0.000	-0.13	0.143
PH	-0.40	0.000	-0.52	0.000	0.02	0.855	0.55	0.000	-0.34	0.000
MCV	-0.18	0.054	0.20	0.032	-0.22	0.018	-0.62	0.000	0.31	0.001
r2g	-0.19	0.034	-0.01	0.910	-0.22	0.017	-0.70	0.000	0.11	0.233
y2g	-0.10	0.267	0.01	0.874	-0.27	0.003	-0.68	0.000	0.11	0.212

Table S11: Superior genotypes for EB and WUE as measured by the difference from the mean of the panel under drought stress compared to the control treatment.

Superior genotypes INCCP_00119, INCCP_00139, INCCP_00291 and INCCP_01917 are highlighted bold. DAT = day after transferring; DAT 28 = longest period of drought stress; DAT 42 = longest period of recovery; WUE = water use efficiency; phase: DA= drought adaptability DAT 8-42; DT= drought tolerance DAT 8-28 and DR= drought recovery DAT 29-42.

Genotype	WUE of drought phase	DAT	Difference control	Difference stress	DK	Country	Geographic Area	Biological Status
INCCP_00004	-	28	11.62	0.89	*kabuli*	ALB	Balkanic Europe	landrace
INCCP_00006	-	28	32.8	0.45	*desi*	BGR	Balkanic Europe	breeding material
INCCP_00009	-	28	26.44	1.03	*desi*	EGY	Nord Africa	landrace
INCCP_00015	-	28	39.21	1.6	*desi*	GRC	Balkanic Europe	landrace
INCCP_00017	DT	-	0.004	9.043	*desi*	GRC	Balkanic Europe	landrace
INCCP_00017	DR	-	0.007	0.003	*desi*	GRC	Balkanic Europe	landrace
INCCP_00017	DA	-	0.007	0.003	*desi*	GRC	Balkanic Europe	landrace
INCCP_00049	-	28	0.42	0.77	*kabuli*	ITA	Italy	landrace
INCCP_00049	-	42	27.99	1.26	*kabuli*	ITA	Italy	landrace
INCCP_00049	DR	-	0.003	0.001	*kabuli*	ITA	Italy	landrace
INCCP_00049	DA	-	0.003	0.001	*kabuli*	ITA	Italy	landrace
INCCP_00102	DR	-	0.001	0.004	*kabuli*	TUN	Nord Africa	landrace
INCCP_00102	DA	-	0.001	0.004	*kabuli*	TUN	Nord Africa	landrace
INCCP_00103	-	42	13.01	15.18	*desi*	TUN	Nord Africa	landrace
INCCP_00103	DR	-	0.005	0.007	*desi*	TUN	Nord Africa	landrace
INCCP_00103	DA	-	0.005	0.007	*desi*	TUN	Nord Africa	landrace
INCCP_00119	-	28	7.74	0.89	*desi*	TUR	Turkey	landrace
INCCP_00119	-	42	44.94	13.03	*desi*	TUR	Turkey	landrace
INCCP_00119	DT	-	0.003	8.922	*desi*	TUR	Turkey	landrace
INCCP_00119	DR	-	0.008	0.009	*desi*	TUR	Turkey	landrace
INCCP_00119	DA	-	0.008	0.009	*desi*	TUR	Turkey	landrace

INCCP_00139	-	28	24.43	5.86	*desi*	TJK	Asia	landrace
INCCP_00139	-	42	102.41	28.67	*desi*	TJK	Asia	landrace
INCCP_00139	DT	-	0.005	0.357	*desi*	TJK	Asia	landrace
INCCP_00139	DR	-	0.013	0.011	*desi*	TJK	Asia	landrace
INCCP_00139	DA	-	0.013	0.011	*desi*	TJK	Asia	landrace
INCCP_00154	-	28	25.85	2.05	*kabuli*	HUN	East Europe	cultivar
INCCP_00193	-	28	38.61	3.58	*desi*	AFG	Asia	landrace
INCCP_00193	-	42	103.92	25	*desi*	AFG	Asia	landrace
INCCP_00193	DR	-	0.011	0.005	*desi*	AFG	Asia	landrace
INCCP_00193	DA	-	0.011	0.005	*desi*	AFG	Asia	landrace
INCCP_00216	-	28	36.98	4.13	*desi*	MKD	Balkanic Europe	cultivar
INCCP_00216	-	42	50.48	10.34	*desi*	MKD	Balkanic Europe	cultivar
INCCP_00216	DR	-	0	0.002	*desi*	MKD	Balkanic Europe	cultivar
INCCP_00216	DA	-	0	0.002	*desi*	MKD	Balkanic Europe	cultivar
INCCP_00232	-	28	9.44	1.56	*desi*	ESP	Iberian Peninsula	cultivar
INCCP_00232	-	42	25.89	2.88	*desi*	ESP	Iberian Peninsula	cultivar
INCCP_00232	DR	-	0.002	0.002	*desi*	ESP	Iberian Peninsula	cultivar
INCCP_00232	DA	-	0.002	0.002	*desi*	ESP	Iberian Peninsula	cultivar
INCCP_00291	-	28	37.73	5.74	*desi*	MEX	Central America	cultivar
INCCP_00291	-	42	83.76	31.04	*desi*	MEX	Central America	cultivar
INCCP_00291	DT	-	0.007	0.096	*desi*	MEX	Central America	cultivar
INCCP_00291	DR	-	0.008	0.009	*desi*	MEX	Central America	cultivar
INCCP_00291	DA	-	0.008	0.009	*desi*	MEX	Central America	cultivar
INCCP_00295	-	28	17.31	1.41	*desi*	PAK	Indian Continent	cultivar
INCCP_00295	-	42	67.04	17.5	*desi*	PAK	Indian Continent	cultivar
INCCP_00295	DR	-	0.011	0.007	*desi*	PAK	Indian Continent	cultivar
INCCP_00295	DA	-	0.011	0.007	*desi*	PAK	Indian Continent	cultivar
INCCP_00372	-	28	22.14	3.73	*desi*	TUR	Turkey	landrace
INCCP_00372	-	42	40.13	16.53	*desi*	TUR	Turkey	landrace
INCCP_00372	DR	-	0.004	0.005	*desi*	TUR	Turkey	landrace

INCCP_00372	DA	-	0.004	0.005	*desi*	TUR	Turkey	landrace
INCCP_00429	-	28	36.17	0.77	*desi*	PAK	Indian Continent	landrace
INCCP_00429	-	42	81.08	12.51	*desi*	PAK	Indian Continent	landrace
INCCP_00429	DR	-	0.01	0.005	*desi*	PAK	Indian Continent	landrace
INCCP_00429	DA	-	0.01	0.005	*desi*	PAK	Indian Continent	landrace
INCCP_00438	-	28	23.29	3.57	*desi*	CHN	Asia	landrace
INCCP_00438	-	42	45.28	5.85	*desi*	CHN	Asia	landrace
INCCP_00438	DR	-	0.001	0.004	*desi*	CHN	Asia	landrace
INCCP_00438	DA	-	0.001	0.004	*desi*	CHN	Asia	landrace
INCCP_00447	-	28	19.21	3.39	*desi*	ETH	Ethiopia	landrace
INCCP_00447	-	42	84.73	28.53	*desi*	ETH	Ethiopia	landrace
INCCP_00447	DR	-	0.01	0.006	*desi*	ETH	Ethiopia	landrace
INCCP_00447	DA	-	0.01	0.006	*desi*	ETH	Ethiopia	landrace
INCCP_00466	-	28	38.24	3.38	*desi*	BGD	Indian Continent	cultivar
INCCP_00466	-	42	128.94	30.87	*desi*	BGD	Indian Continent	cultivar
INCCP_00466	DR	-	0.019	0.014	*desi*	BGD	Indian Continent	cultivar
INCCP_00466	DA	-	0.019	0.014	*desi*	BGD	Indian Continent	cultivar
INCCP_00470	-	28	35.95	4.58	*desi*	UZB	Asia	domesticated material
INCCP_00470	-	42	44.83	14.63	*desi*	UZB	Asia	domesticated material
INCCP_00470	DT	-	0.008	0.368	*desi*	UZB	Asia	domesticated material
INCCP_00470	DR	-	0.003	0.008	*desi*	UZB	Asia	domesticated material
INCCP_00470	DA	-	0.003	0.008	*desi*	UZB	Asia	domesticated material
INCCP_00480	-	28	25.85	3.57	*desi*	MDA	Balkanic Europe	landrace
INCCP_00480	-	42	68.3	15.88	*desi*	MDA	Balkanic Europe	landrace
INCCP_00486	-	28	5.46	3.8	*desi*	AUS	Others	cultivar
INCCP_00486	-	42	52.97	14.57	*desi*	AUS	Others	cultivar
INCCP_00486	DR	-	0.005	0.01	*desi*	AUS	Others	cultivar
INCCP_00486	DA	-	0.005	0.01	*desi*	AUS	Others	cultivar
INCCP_00508	-	28	6.83	2.06	*desi*	SYR	Middle East	breeding material
INCCP_00508	-	42	20.62	18.04	*desi*	SYR	Middle East	breeding material

INCCP_00508	DR	-	0.004	0.01	*desi*	SYR	Middle East	breeding material
INCCP_00508	DA	-	0.004	0.01	*desi*	SYR	Middle East	breeding material
INCCP_00512	DR	-	0.007	0.002	*kabuli*	ESP	Iberian Peninsula	breeding material
INCCP_00512	DA	-	0.007	0.002	*kabuli*	ESP	Iberian Peninsula	breeding material
INCCP_00573	-	28	31.9	4.33	*desi*	IND	Indian Continent	landrace
INCCP_00573	-	42	81.01	35.38	*desi*	IND	Indian Continent	landrace
INCCP_00573	DR	-	0.011	0.012	*desi*	IND	Indian Continent	landrace
INCCP_00573	DA	-	0.011	0.012	*desi*	IND	Indian Continent	landrace
INCCP_01429	DR	-	0.007	0.003	*kabuli*	CYP	Middle East	landrace
INCCP_01429	DA	-	0.007	0.003	*kabuli*	CYP	Middle East	landrace
INCCP_01461	DR	-	0.001	0.001	*kabuli*	TUR	Turkey	landrace
INCCP_01461	DA	-	0.001	0.001	*kabuli*	TUR	Turkey	landrace
INCCP_01615	-	28	24.52	2.47	*kabuli*	SYR	Middle East	landrace
INCCP_01615	-	42	61.86	10.28	*kabuli*	SYR	Middle East	landrace
INCCP_01615	DR	-	0.009	0.006	*kabuli*	SYR	Middle East	landrace
INCCP_01615	DA	-	0.009	0.006	*kabuli*	SYR	Middle East	landrace
INCCP_01867	DR	-	0.005	0.003	*kabuli*	KAZ	Asia	landrace
INCCP_01867	DA	-	0.005	0.003	*kabuli*	KAZ	Asia	landrace
INCCP_01917	-	28	13.48	0.91	*kabuli*	PRT	Iberian Peninsola	landrace
INCCP_01917	-	42	25.49	3.32	*kabuli*	PRT	Iberian Peninsola	landrace
INCCP_01917	DT	-	0.003	9.04	*kabuli*	PRT	Iberian Peninsola	landrace
INCCP_01917	DR	-	0.002	0.003	*kabuli*	PRT	Iberian Peninsola	landrace
INCCP_01917	DA	-	0.002	0.003	*kabuli*	PRT	Iberian Peninsola	landrace

Table S12: Description of Plant Material.

Genotype	DOI	Line Code UNIVPM	Synonym1	Synonym2	Type Of Chickpea	Country	Geographic Area	Biological Status	Donor Institute
INCCP_00004	10.18730/Z8H4J	AN_Ca_0005	CIC 235	95469	*kabuli*	ALB	Balkanic Europe	landrace	IPK
INCCP_00006	10.18730/Z8HN=	AN_Ca_0009	CIC 63	44726	*desi*	BGR	Balkanic Europe	breeding material	IPK
INCCP_00009	10.18730/Z8FF2	AN_Ca_0015	CIC 118	44780	*desi*	EGY	Nord Africa	landrace	IPK
INCCP_00015	10.18730/Z8GJ0	AN_Ca_0024	CIC 18	44681	*desi*	GRC	Balkanic Europe	landrace	IPK
INCCP_00017	10.18730/Z8GWA	AN_Ca_0026	CIC 21	44684	*desi*	GRC	Balkanic Europe	landrace	IPK
INCCP_00034	10.18730/Z8FG3	AN_Ca_0053	CIC 124	44786	*desi*	ITA	Italy	landrace	IPK
INCCP_00049	10.18730/Z8JNY	AN_Ca_0077	CIC 91	78711	*kabuli*	ITA	Italy	landrace	IPK
INCCP_00078	10.18730/Z8G8V	AN_Ca_0124	CIC 160	79870	*kabuli*	ITA	Italy	landrace	IPK
INCCP_00100	10.18730/Z8JJV	AN_Ca_0169	CIC 84	44747	*kabuli*	SVK	East Europe	landrace	IPK
INCCP_00102	10.18730/Z8GV9	AN_Ca_0172	CIC 203	55301	*kabuli*	TUN	Nord Africa	landrace	IPK
INCCP_00103	10.18730/Z8H5K	AN_Ca_0175	CIC 237	95476	*desi*	TUN	Nord Africa	landrace	IPK
INCCP_00119	10.18730/Z8JHT	AN_Ca_0197	CIC 8	44671	*desi*	TUR	Turkey	landrace	IPK
INCCP_00139	10.18730/ZACT4	AN_Ca_0224	USSR-05-03-BD	W6 3498	*desi*	TJK	Asia	landrace	USDA
INCCP_00149	10.18730/ZA0ST	AN_Ca_0238	OBRAZTZOV CHIFLIK 1	W6 10046	*kabuli*	BGR	Balkanic Europe	landrace	USDA
INCCP_00154	10.18730/ZA10~	AN_Ca_0243	BEKESCSABAI 2	W6 11071	*kabuli*	HUN	East Europe	cultivar	USDA
INCCP_00159	10.18730/ZA151	AN_Ca_0248	1204/86	W6 11077	*desi*	FRA	West Europe	landrace	USDA
INCCP_00160	10.18730/ZA162	AN_Ca_0249	1658/85	W6 11078	*kabuli*	ROU	Balkanic Europe	landrace	USDA
INCCP_00161	10.18730/ZA173	AN_Ca_0250	125/84	W6 11079	*desi*	HUN	East Europe	landrace	USDA
INCCP_00163	10.18730/ZA195	AN_Ca_0252	417	W6 11081	*desi*	DEU	West Europe	landrace	USDA
INCCP_00165	10.18730/ZA1B7	AN_Ca_0254	Krokhmal #2	W6 11343	*kabuli*	UKR	East Europe	cultivar	USDA
INCCP_00166	10.18730/ZA1C8	AN_Ca_0255	Krokhmal #3	W6 11344	*desi*	UKR	East Europe	cultivar	USDA
INCCP_00190	10.18730/ZA24*	AN_Ca_0287	ILC 191	W6 14954	*kabuli*	RUS	Asia	landrace	USDA
INCCP_00193	10.18730/Z8MGF	AN_Ca_0290	NO. 12620	PI 207470	*desi*	AFG	Asia	landrace	USDA
INCCP_00216	10.18730/Z8N71	AN_Ca_0315	RUDNICKI	PI 370420	*desi*	MKD	Balkanic Europe	cultivar	USDA
INCCP_00219	10.18730/Z8NA4	AN_Ca_0318	KLISURSKI	PI 379220	*desi*	MKD	Balkanic Europe	cultivar	USDA
INCCP_00230	10.18730/Z8NNF	AN_Ca_0330	PEDROSILLANO	PI 533672	*kabuli*	ESP	Iberian Peninsula	cultivar	USDA

INCCP_00232	10.18730/Z8NQH	AN_Ca_0334	NEGRO VICOS	PI 533676	*desi*	ESP	Iberian Peninsula	cultivar	USDA
INCCP_00251	10.18730/Z8PAU	AN_Ca_0365	CALIA	PI 572508	*kabuli*	ITA	Italy	cultivar	USDA
INCCP_00291	10.18730/Z8QJ2	AN_Ca_0410	PORQUERO NEGRO	PI 577014	*desi*	MEX	Central America	cultivar	USDA
INCCP_00295	10.18730/Z8QP6	AN_Ca_0418	CM1913	PI 577022	*desi*	PAK	Indian continent	cultivar	USDA
INCCP_00298	10.18730/Z8QS9	AN_Ca_0421	CM-1	PI 577026	*desi*	PAK	Indian continent	cultivar	USDA
INCCP_00372	10.18730/Z8RFZ	AN_Ca_0501	300685-0703D	PI 595967	*desi*	TUR	Turkey	landrace	USDA
INCCP_00429	10.18730/ZA3YG	AN_Ca_0562	WKP 88-57	W6 17612	*desi*	PAK	Indian continent	landrace	USDA
INCCP_00438	10.18730/ZA2G7	AN_Ca_0571	W6 17431	W6 17431	*desi*	CHN	Asia	landrace	USDA
INCCP_00447	10.18730/ZA2SG	AN_Ca_0580	ICC 8578	W6 17447	*desi*	ETH	Ethiopia	landrace	USDA
INCCP_00466	10.18730/Z8TX=	AN_Ca_0600	Barichhola 5	PI 596369	*desi*	BGD	Indian continent	cultivar	USDA
INCCP_00470	10.18730/ZA46R	AN_Ca_0604	W6 19245	W6 19245	*desi*	UZB	Asia	domesticated material	USDA
INCCP_00480	10.18730/ZA4CY	AN_Ca_0614	Floreshtskiy 58/76	W6 19957	*desi*	MDA	Balkanic Europe	landrace	USDA
INCCP_00486	10.18730/Z8V34	AN_Ca_0620	HEERA	PI 612246	*desi*	AUS	others	cultivar	USDA
INCCP_00488	10.18730/ZA4H=	AN_Ca_0622	ILC 72 (differential)	W6 22575	*kabuli*	USA	USA	landrace	USDA
INCCP_00508	10.18730/Z8V89	AN_Ca_0642	ILC 10766	PI 629018	*desi*	SYR	Middle East	breeding material	USDA
INCCP_00509	10.18730/ZA56K	AN_Ca_0643	ARM 172	W6 23903	*desi*	ARM	Caucasus	domesticated material	USDA
INCCP_00512	10.18730/Z8V9A	AN_Ca_0646	CA2969	PI 632396	*kabuli*	ESP	Iberian Peninsula	breeding material	USDA
INCCP_00573	10.18730/ZA703	AN_Ca_0713	ICC 14077	W6 25914	*desi*	IND	Indian continent	landrace	USDA
INCCP_00700	10.18730/ZAAYJ	AN_Ca_0844	G2503	W6 26156	*kabuli*	GEO	Caucasus	landrace	USDA
INCCP_00709	10.18730/ZAB6T	AN_Ca_0853	TJK04:11-067	W6 26223	*kabuli*	TJK	Asia	landrace	USDA
INCCP_00792	10.18730/Z8WWR	AN_Ca_0940	ILC 176	PI 670537	*kabuli*	MAR	Nord Africa	landrace	USDA
INCCP_00853	10.18730/Z8YSB	AN_Ca_1008	ILC 563	PI 670605	*kabuli*	LBN	Middle East	landrace	USDA
INCCP_00918	10.18730/Z90T2	AN_Ca_1074	ILC 1116	PI 670671	*kabuli*	IRN	Middle East	landrace	USDA
INCCP_00955	10.18730/Z91Z2	AN_Ca_1111	ILC 1759	PI 670720	*kabuli*	CHL	South America	landrace	USDA
INCCP_01244	10.18730/Z9B0*	AN_Ca_1408	ILC 4312	PI 671021	*kabuli*	ESP	Iberian Peninsula	landrace	USDA
INCCP_01283	10.18730/Z9C7$	AN_Ca_1447	ILC 4427	PI 671060	*kabuli*	UZB	Asia	landrace	USDA
INCCP_01396	10.18730/Z9FRU	AN_Ca_1561	ILC 4992	PI 671175	*kabuli*	SYR	Middle East	landrace	USDA
INCCP_01429	10.18730/Z9GS*	AN_Ca_1595	ILC 5558	PI 671209	*kabuli*	CYP	Middle East	landrace	USDA

INCCP_01461	10.18730/Z9HSV	AN_Ca_1628	ILC 5791	PI 671242	*kabuli*	TUR	Turkey	landrace	USDA
INCCP_01596	10.18730/Z9P0E	AN_Ca_1767	ILC 6146	PI 671383	*kabuli*	PRT	Iberian Peninsula	landrace	USDA
INCCP_01607	10.18730/Z9PBS	AN_Ca_1778	ILC 6193	PI 671394	*kabuli*	DZA	Nord Africa	landrace	USDA
INCCP_01615	10.18730/Z9PK~	AN_Ca_1786	ILC 6264	PI 671402	*kabuli*	SYR	Middle East	landrace	USDA
INCCP_01867	10.18730/Z9YFT	AN_Ca_2041	ILC 9757	PI 671659	*kabuli*	KAZ	Asia	landrace	USDA
INCCP_01917	10.18730/ZA012	AN_Ca_2091	ILC 11968	PI 671748	*kabuli*	PRT	Iberian Peninsola	landrace	USDA