

Supplementary Information

Table S1. Vegetative Performance of 35 lentil genotypes grown at Dirab Agriculture Station (Riyadh, Saudi Arabia) in November 2010, December 2011 and combined of the two seasons.

Genotype	Number of Days to 50% Flowering			Number of Days to 95% Maturing			Plant Height (cm)		
	2010	2011	Combined	2010	2011	Combined	2010	2011	Combined
<i>ILL 3375</i>	89.7	82.3	86.0	130.0	113.7	121.8	38.2	22.7	30.5
<i>FLIP2009-50L</i>	97.0	90.0	93.5	134.8	123.8	129.3	34.8	20.9	27.8
<i>FLIP 2009-51L</i>	111.4	105.4	108.4	143.3	130.5	136.9	34.5	25.8	30.2
<i>FLIP 2009-52L</i>	111.3	101.0	106.2	144.9	133.6	139.3	38.5	24.0	31.3
<i>FLIP 2009-54L</i>	108.7	107.7	108.2	142.2	136.4	139.3	34.5	32.9	33.7
<i>FLIP 2009-55L</i>	106.2	100.1	103.1	139.2	133.5	136.4	31.8	35.0	33.4
<i>FLIP 2009-56L</i>	100.7	102.7	101.7	134.4	141.6	138.0	32.0	33.3	32.6
<i>FLIP 2009-64L</i>	109.3	101.0	105.2	144.0	138.0	141.0	40.0	27.0	33.5
<i>FLIP 2009-68L</i>	102.2	95.2	98.7	143.6	132.6	138.1	35.3	23.3	29.3
<i>FLIP 2009-69L</i>	105.0	96.3	100.7	137.1	127.8	132.4	33.8	22.2	28.0
<i>FLIP 2009-70L</i>	103.7	98.7	101.2	136.3	125.3	130.8	37.3	24.2	30.8
<i>FLIP 2010-91L</i>	110.0	103.0	106.5	138.6	128.9	133.8	32.1	22.4	27.2
<i>FLIP 2010-94L</i>	101.0	93.0	97.0	133.5	124.5	129.0	36.1	24.1	30.1
<i>FLIP 2010-95L</i>	113.1	100.0	106.6	142.5	131.5	137.0	35.1	23.1	29.1
<i>FLIP 2010-96L</i>	106.0	98.0	102.0	147.3	136.3	141.8	39.5	27.5	33.5
<i>FLIP 2010-97L</i>	107.3	98.7	103.0	136.2	125.2	130.7	36.1	24.1	30.1
<i>FLIP 2010-99L</i>	98.4	91.4	94.9	146.3	135.3	140.8	36.1	25.8	30.9
<i>FLIP 2010-100L</i>	112.3	102.7	107.5	148.1	137.1	142.6	36.9	27.3	32.1
<i>FLIP 2010-101L</i>	112.0	105.0	108.5	148.1	137.1	142.6	34.0	22.0	28.0
<i>FLIP 2010-102L</i>	109.9	101.0	105.5	145.2	133.2	139.2	37.1	24.1	30.6
<i>FLIP 2010-103L</i>	107.0	95.7	101.3	142.1	132.8	137.4	34.0	20.0	27.0
<i>FLIP 2010-104L</i>	101.0	96.3	98.7	137.1	128.8	132.9	37.1	24.8	30.9

Table S1. Cont.

Genotype	Number of Days to 50% Flowering			Number of Days to 95% Maturing			Plant Height (cm)		
	2010	2011	Combined	2010	2011	Combined	2010	2011	Combined
<i>FLIP 2010-105L</i>	111.0	104.0	107.5	147.3	136.3	141.8	36.1	23.1	29.6
<i>FLIP 2010-106L</i>	103.2	96.2	99.7	137.3	127.9	132.6	41.2	30.2	35.7
<i>FLIP 2011-43L</i>	106.7	101.3	104.0	140.1	130.1	135.1	41.2	28.5	34.8
<i>FLIP 2011-51L</i>	105.8	96.0	100.9	139.3	128.3	133.8	40.2	28.2	34.2
<i>FLIP 2011-52L</i>	110.0	103.0	106.5	140.1	129.1	134.6	39.6	25.6	32.6
<i>FLIP 2011-54L</i>	102.8	95.8	99.3	137.2	126.2	131.7	41.0	27.0	34.0
<i>FLIP 2011-55L</i>	113.3	100.7	107.0	145.3	131.2	138.2	37.3	21.5	29.4
<i>FLIP 2011-56L</i>	106.2	99.2	102.7	143.2	127.8	135.5	40.3	18.9	29.6
<i>FLIP 2011-57L</i>	97.3	93.0	95.2	134.2	123.4	128.8	38.1	19.7	28.9
<i>ILL 10974</i>	111.3	112.7	112.0	143.8	134.8	139.3	37.1	25.1	31.1
<i>ILL 10975</i>	112.0	105.0	108.5	144.6	133.6	139.1	36.2	24.2	30.2
<i>FLIP 2011-60L</i>	109.3	102.3	105.8	142.2	131.2	136.7	33.1	24.8	29.0
<i>FLIP 2011-61L</i>	107.4	99.0	103.2	139.1	130.8	134.9	40.0	30.0	35.0
Mean	106.3	99.2	102.8	140.8	130.8	135.8	36.7	25.2	31.0
LSD 5% for genotype	4.7	8.4	4.8	4.5	6.4	3.9	5.2	7.2	4.4
LSD 5% for interaction	-	-	ns	-	-	5.5	-	-	6.2

Table S2. Reproductive performance of 35 lentil genotypes grown at Dirab Agriculture Station (Riyadh, Saudi Arabia) in November 2010, December 2011 and combined of the two seasons.

Genotype	Number of Branches/Plant			Number of Seeds/Plant			Seed Yield/Plant (g)		
	2010	2011	Combined	2010	2011	Combined	2010	2011	Combined
<i>ILL 3375</i>	3.9	3.5	3.7	33.4	21.5	27.4	1.2	0.5	0.9
<i>FLIP2009-50L</i>	3.1	2.1	2.6	27.9	13.3	20.6	1.1	0.4	0.8
<i>FLIP 2009-51L</i>	3.6	5.0	4.3	39.6	27.2	33.4	1.2	0.8	1.0
<i>FLIP 2009-52L</i>	4.1	3.8	4.0	25.5	12.0	18.8	1.1	0.7	0.9
<i>FLIP 2009-54L</i>	3.9	2.3	3.1	22.8	20.1	21.5	1.0	0.9	0.9
<i>FLIP 2009-55L</i>	3.4	3.4	3.4	23.3	28.6	26.0	0.9	0.8	0.8
<i>FLIP 2009-56L</i>	2.9	3.3	3.1	26.6	32.0	29.3	1.0	1.3	1.1
<i>FLIP 2009-64L</i>	3.6	4.0	3.8	52.1	33.0	42.6	1.9	1.2	1.5
<i>FLIP 2009-68L</i>	3.9	3.5	3.7	31.5	21.7	26.6	1.1	0.9	1.0
<i>FLIP 2009-69L</i>	3.0	3.5	3.2	41.0	31.0	36.0	1.3	1.0	1.1
<i>FLIP 2009-70L</i>	3.6	3.3	3.5	31.6	18.7	25.2	1.2	0.8	1.0
<i>FLIP 2010-91L</i>	3.4	3.2	3.3	28.7	16.8	22.8	1.1	0.7	0.9
<i>FLIP 2010-94L</i>	4.4	4.2	4.3	37.9	26.3	32.1	1.5	1.2	1.4
<i>FLIP 2010-95L</i>	3.4	3.5	3.5	30.8	21.2	26.0	1.1	0.9	1.0
<i>FLIP 2010-96L</i>	3.1	3.0	3.1	39.5	25.2	32.3	1.2	0.8	1.0
<i>FLIP 2010-97L</i>	3.2	2.9	3.1	33.5	24.0	28.8	1.6	1.3	1.4
<i>FLIP 2010-99L</i>	4.3	3.7	4.0	33.5	22.5	28.0	1.3	1.0	1.2
<i>FLIP 2010-100L</i>	3.9	3.9	3.9	38.6	26.7	32.7	1.3	0.8	1.0
<i>FLIP 2010-101L</i>	2.8	2.6	2.7	44.9	32.9	38.9	1.7	1.3	1.5
<i>FLIP 2010-102L</i>	2.5	2.3	2.4	40.4	29.4	34.9	1.7	1.4	1.5
<i>FLIP 2010-103L</i>	2.6	3.3	3.0	36.7	20.9	28.8	1.4	0.8	1.1
<i>FLIP 2010-104L</i>	2.9	2.9	2.9	47.3	32.6	40.0	1.4	1.2	1.3
<i>FLIP 2010-105L</i>	3.6	3.0	3.3	34.2	23.6	28.9	2.0	1.4	1.7
<i>FLIP 2010-106L</i>	3.4	2.4	2.9	29.3	14.6	22.0	1.4	0.8	1.1

Table S2. Cont.

Genotype	Number of Branches/Plant			Number of Seeds/Plant			Seed Yield/Plant (g)		
	2010	2011	Combined	2010	2011	Combined	2010	2011	Combined
<i>FLIP 2011-43L</i>	2.8	2.7	2.8	31.3	20.3	25.8	1.2	0.9	1.0
<i>FLIP 2011-51L</i>	3.6	3.0	3.3	26.0	18.7	22.4	1.3	0.9	1.1
<i>FLIP 2011-52L</i>	2.7	2.1	2.4	26.1	15.1	20.6	1.0	0.7	0.8
<i>FLIP 2011-54L</i>	3.1	3.0	3.0	38.0	26.0	32.0	0.9	0.6	0.8
<i>FLIP 2011-55L</i>	3.5	2.9	3.2	36.0	12.9	24.4	1.4	0.6	1.0
<i>FLIP 2011-56L</i>	3.3	2.2	2.8	30.2	16.3	23.3	1.4	0.7	1.0
<i>FLIP 2011-57L</i>	4.0	2.9	3.5	36.2	17.3	26.8	1.4	0.8	1.1
<i>ILL 10974</i>	2.9	2.9	2.9	32.0	23.4	27.7	1.2	1.0	1.1
<i>ILL 10975</i>	2.8	2.2	2.5	35.1	24.1	29.6	1.2	1.1	1.1
<i>FLIP 2011-60L</i>	3.3	3.4	3.3	31.3	27.3	29.3	1.2	1.0	1.1
<i>FLIP 2011-61L</i>	3.7	3.1	3.4	31.5	23.9	27.7	1.3	1.0	1.2
Mean	3.4	3.1	3.25	33.8	22.9	28.4	1.3	0.9	1.1
LSD 5% for genotype	1.4	1.1	0.9	9.9	9.2	6.7	0.5	0.36	0.3
LSD 5% for interaction	-	-	ns	-	-	ns	-	-	ns

Table S3. Minerals Content of lentil genotypes (on a dry weight basis).

Genotype	Ca	P	K	Mg	Fe	Mn	Cu	Zn
	(mg/100g)							
<i>ILL 3375</i>	79.3	378.2	1032.6	133.8	7.31	2.49	1.26	4.24
<i>FLIP2009-50L</i>	76.4	415.6	993.4	130.7	7.63	2.71	0.87	4.41
<i>FLIP 2009-51L</i>	74.0	286.9	976.2	132.3	7.72	1.68	1.04	4.35
<i>FLIP 2009-52L</i>	64.9	465.3	1061.2	136.5	8.16	1.92	1.37	4.43
<i>FLIP 2009-54L</i>	81.3	546.7	1051.2	140.9	7.45	1.52	1.16	4.03
<i>FLIP 2009-55L</i>	79.7	492.9	985.4	138.3	7.90	2.85	0.92	3.89
<i>FLIP 2009-56L</i>	68.7	365.5	943.0	129.0	7.45	1.38	1.37	3.64
<i>FLIP 2009-64L</i>	76.3	378.6	765.2	135.6	7.00	1.68	1.21	3.61
<i>FLIP 2009-68L</i>	76.0	3.67.4	815.0	138.3	7.31	1.32	1.23	3.44
<i>FLIP 2009-69L</i>	76.4	379.6	859.3	138.6	7.28	1.44	1.35	4.32
<i>FLIP 2009-70L</i>	76.2	375.5	687.4	132.9	6.82	1.42	1.27	3.36
<i>FLIP 2010-91L</i>	79.6	361.9	786.9	139.4	8.57	1.45	1.15	3.82
<i>FLIP 2010-94L</i>	71.3	415.3	674.4	142.6	7.01	1.36	1.26	3.62
<i>FLIP 2010-95L</i>	75.9	395.2	796.9	145.9	6.57	1.35	0.99	2.63
<i>FLIP 2010-96L</i>	75.5	407.9	753.6	150.2	6.71	1.50	0.86	2.74
<i>FLIP 2010-97L</i>	71.5	456.3	848.5	157.3	7.26	1.47	0.89	2.98
<i>FLIP 2010-99L</i>	69.4	531.2	914.4	141.1	7.18	1.50	0.91	3.73
<i>FLIP 2010-100L</i>	77.6	512.7	891.6	148.3	7.55	1.41	1.01	3.79
<i>FLIP 2010-101L</i>	70.2	525.5	885.3	128.9	8.04	1.38	0.97	3.44
<i>FLIP 2010-102L</i>	73.4	538.6	946.4	142.4	7.12	1.42	0.96	2.99
<i>FLIP 2010-103L</i>	72.8	329.6	998.6	126.1	7.13	1.26	1.31	4.38
<i>FLIP 2010-104L</i>	76.0	334.3	899.0	132.5	7.53	1.32	1.28	3.49
<i>FLIP 2010-105L</i>	80.2	335.2	872.1	140.3	7.61	1.30	1.24	4.51
<i>FLIP 2010-106L</i>	84.8	336.4	926.3	147.6	7.09	1.33	0.87	3.83
<i>FLIP 2011-43L</i>	83.5	347.6	981.3	144.9	6.83	1.40	0.98	3.85

Table S3. Cont.

Genotype	Ca	P	K	Mg	Fe	Mn	Cu	Zn
	(mg/100g)							
<i>FLIP 2011-51L</i>	70.9	416.2	871.4	132.1	7.28	1.43	1.03	4.06
<i>FLIP 2011-52L</i>	70.5	438.9	869.7	137.3	7.60	1.44	1.25	3.88
<i>FLIP 2011-54L</i>	78.2	428.1	878.7	144.4	8.02	1.32	1.15	4.24
<i>FLIP 2011-55L</i>	71.0	421.0	838.6	137.5	7.51	1.37	1.13	4.09
<i>FLIP 2011-56L</i>	72.6	401.5	776.4	130.4	7.38	1.44	1.31	3.82
<i>FLIP 2011-57L</i>	68.5	345.2	781.9	133.5	8.03	1.37	1.14	3.66
<i>ILL 10974</i>	72.5	438.6	793.0	146.9	7.81	1.31	1.30	4.27
<i>ILL 10975</i>	74.3	451.6	985.2	139.4	7.93	1.42	1.26	3.91
<i>FLIP 2011-60L</i>	75.3	383.2	883.4	131.7	7.76	1.34	1.20	3.28
<i>FLIP 2011-61L</i>	77.5	386.5	991.5	142.8	7.14	1.31	1.18	3.49
Mean $\pm$ SE *	74.9 $\pm$ 0.7	400.1 $\pm$ 16.1	886.1 $\pm$ 16.8	138.6 $\pm$ 1.2	7.45 $\pm$ 0.08	1.53 $\pm$ 0.07	1.13 $\pm$ 0.03	3.78 $\pm$ 0.08

* SE, standard error.

Table S4. Amino acids contents of lentil genotypes (on a dry weight basis). Ala = Alanine; Gly = Glycine; Leu = Leucine; Iso = Isoleucine; Phe = Phenylalanine; Try = Tryptophan; Tyr = Tyrosine; Val = Valine; Pro = Proline.

Genotype	Ala	Gly	Leu	Ile	Phe	Try	Tyr	Val	Pro
	g/kg								
<i>ILL 3375</i>	10.4	9.8	9.5	4.7	6.7	0.72	6.4	8.5	11.1
<i>FLIP2009-50L</i>	9.6	9.5	7.4	4.2	5.3	0.61	6.6	8.6	11.2
<i>FLIP 2009-51L</i>	11.2	9.8	8.7	5.6	5.6	0.74	6.3	8.6	10.5
<i>FLIP 2009-52L</i>	10.5	8.2	8.0	4.8	5.5	0.83	5.1	7.2	8.3
<i>FLIP 2009-54L</i>	14.6	9.6	6.8	3.4	6.4	0.63	6.5	6.9	11.3
<i>FLIP 2009-55L</i>	10.6	8.1	7.6	3.8	5.7	0.72	6.9	5.3	10.9
<i>FLIP 2009-56L</i>	11.3	9.9	7.9	4.1	5.5	0.69	4.9	7.9	10.5
<i>FLIP 2009-64L</i>	11.6	9.4	8.1	4.2	6.6	0.81	6.5	6.4	9.4
<i>FLIP 2009-68L</i>	10.2	8.1	7.8	3.8	6.1	0.73	5.9	8.4	8.7
<i>FLIP 2009-69L</i>	10.6	8.2	8.4	3.9	5.1	0.69	4.3	5.8	8.4
<i>FLIP 2009-70L</i>	10.4	9.5	9.4	4.7	6.3	0.78	6.1	8.0	7.8
<i>FLIP 2010-91L</i>	10.3	9.8	9.4	5.3	5.5	0.90	3.8	7.6	8.5
<i>FLIP 2010-94L</i>	10.8	8.2	9.0	5.6	5.4	0.92	6.2	8.0	8.1
<i>FLIP 2010-95L</i>	11.2	9.2	8.1	3.8	6.7	0.74	6.9	6.4	8.6
<i>FLIP 2010-96L</i>	9.2	8.9	9.5	4.2	5.8	0.68	6.9	7.3	6.4
<i>FLIP 2010-97L</i>	9.3	9.2	9.1	4.5	5.8	0.89	4.9	6.4	9.5
<i>FLIP 2010-99L</i>	10.3	9.4	9.2	4.4	4.9	0.73	6.9	6.5	6.2
<i>FLIP 2010-100L</i>	10.6	10.1	9.5	5.2	6.5	0.90	6.0	8.0	6.1
<i>FLIP 2010-101L</i>	10.8	10.2	7.7	4.8	6.7	0.76	5.8	9.0	7.3
<i>FLIP 2010-102L</i>	11.5	10.3	8.3	4.3	6.3	0.70	6.2	7.6	8.3
<i>FLIP 2010-103L</i>	10.4	7.2	9.8	3.5	5.8	0.73	5.6	7.9	11.8
<i>FLIP 2010-104L</i>	10.8	9.3	9.2	4.0	5.8	0.81	6.0	6.4	11.5
<i>FLIP 2010-105L</i>	10.4	8.4	7.6	4.1	5.9	0.84	6.2	8.7	11.9
<i>FLIP 2010-106L</i>	9.6	9.8	9.6	3.8	7.6	0.86	6.4	8.2	11.7

Table S4. Cont.

Genotype	Ala	Gly	Leu	Ile	Phe	Try	Tyr	Val	Pro
	g/kg								
<i>FLIP 2011-43L</i>	8.2	8.4	9.2	5.3	6.4	0.90	7.4	7.0	9.3
<i>FLIP 2011-51L</i>	10.7	8.8	7.5	4.7	6.1	0.88	7.0	6.5	6.3
<i>FLIP 2011-52L</i>	10.2	8.3	8.4	5.6	6.6	0.89	7.1	6.02	6.4
<i>FLIP 2011-54L</i>	8.6	9.6	8.8	5.3	7.6	0.92	6.8	8.4	8.8
<i>FLIP 2011-55L</i>	11.3	9.5	9.1	4.4	7.2	0.86	4.8	7.5	10.3
<i>FLIP 2011-56L</i>	10.2	9.4	8.2	5.2	7.8	0.87	4.1	7.4	7.8
<i>FLIP 2011-57L</i>	11.9	9.3	8.2	5.4	7.4	0.85	7.2	6.6	7.9
<i>ILL 10974</i>	10.7	7.6	9.3	4.9	7.5	0.81	5.7	8.7	7.5
<i>ILL 10975</i>	10.2	8.4	9.7	4.7	7.5	0.76	5.5	7.9	11.7
<i>FLIP 2011-60L</i>	10.3	8.6	9.3	4.4	7.8	0.64	3.9	5.6	7.7
<i>FLIP 2011-61L</i>	11.0	7.6	9.2	5.3	8.2	0.89	4.6	7.4	8.1
Mean ± SE	10.6 ± 0.2	9.0 ± 0.1	8.6 ± 0.1	4.6 ± 0.1	6.4 ± 0.2	0.79 ± 0.02	5.9 ± 0.2	7.4 ± 0.2	9.0 ± 0.3

Table S5. Amino acids contents of lentil genotypes (on a dry weight basis). Ser = Serine; Thr = Threonine; Glu = Glutamic; Asp = Aspartic; His = Histidine; Cys = Cysteine; Met = Methionine; Lys = Lysine; Arg = Arginine.

Genotype	Ser	Thr	Glu	Asp	His	Cys	Met	Lys	Arg
	g/kg								
<i>ILL 3375</i>	8.3	5.7	10.5	9.5	3.7	0.62	1.9	4.5	7.2
<i>FLIP2009-50L</i>	7.4	6.3	9.3	10.6	4.5	0.53	1.7	6.4	6.7
<i>FLIP 2009-51L</i>	7.3	4.5	10.9	10.9	4.9	0.47	1.5	6.7	9.1
<i>FLIP 2009-52L</i>	8.7	5.6	11.9	9.6	4.8	0.46	1.6	6.9	9.4
<i>FLIP 2009-54L</i>	7.6	7.5	10.6	10.8	3.9	0.51	1.7	6.8	8.3
<i>FLIP 2009-55L</i>	7.8	6.0	10.3	10.8	5.5	0.58	1.8	6.4	9.4
<i>FLIP 2009-56L</i>	7.4	7.8	11.5	9.7	5.4	0.48	1.6	6.7	8.5
<i>FLIP 2009-64L</i>	9.2	5.9	10.4	9.1	5.4	0.67	1.7	8.6	8.2
<i>FLIP 2009-68L</i>	8.8	7.6	11.2	9.3	5.1	0.64	1.0	8.2	8.8
<i>FLIP 2009-69L</i>	8.6	7.1	10.0	9.4	5.2	0.42	1.2	6.2	10.0
<i>FLIP 2009-70L</i>	9.7	7.1	11.3	9.6	5.9	0.62	1.8	7.5	8.6
<i>FLIP 2010-91L</i>	9.3	6.3	10.0	9.2	4.8	0.43	1.3	8.5	9.1
<i>FLIP 2010-94L</i>	9.9	6.7	9.3	9.4	4.2	0.48	1.1	6.4	10.0
<i>FLIP 2010-95L</i>	8.4	7.9	10.8	9.6	4.4	0.52	1.4	7.6	9.0
<i>FLIP 2010-96L</i>	8.2	6.5	10.2	8.2	5.5	0.49	1.8	8.3	9.8
<i>FLIP 2010-97L</i>	8.9	7.1	11.7	9.2	5.6	0.48	1.7	8.6	9.1
<i>FLIP 2010-99L</i>	9.1	6.9	10.5	10.3	4.8	0.60	1.7	8.4	9.2
<i>FLIP 2010-100L</i>	9.2	4.1	10.2	9.6	4.9	0.59	1.8	8.3	7.0
<i>FLIP 2010-101L</i>	9.3	4.8	10.9	8.9	5.2	0.63	1.5	7.3	6.9
<i>FLIP 2010-102L</i>	9.7	6.8	11.1	10.3	5.9	0.44	1.3	8.6	6.7
<i>FLIP 2010-103L</i>	7.9	4.1	11.7	10.4	3.6	0.62	1.6	5.9	6.6
<i>FLIP 2010-104L</i>	8.9	5.6	11.0	10.0	3.9	0.58	2.1	5.4	7.9
<i>FLIP 2010-105L</i>	8.5	5.4	10.4	10.0	4.7	0.49	1.7	6.0	8.3
<i>FLIP 2010-106L</i>	9.9	6.3	9.8	9.6	4.5	0.42	1.6	6.3	8.6

Table S5. Cont.

Genotype	Ser	Thr	Glu	Asp	His	Cys	Met	Lys	Arg
	g/kg								
<i>FLIP 2011-43L</i>	8.4	4.7	11.4	9.2	4.3	0.53	1.6	7.9	7.6
<i>FLIP 2011-51L</i>	9.2	6.9	10.3	9.3	4.4	0.59	0.96	7.3	8.2
<i>FLIP 2011-52L</i>	8.6	4.8	10.9	9.3	5.1	0.60	1.8	7.7	9.5
<i>FLIP 2011-54L</i>	9.2	4.6	10.6	10.4	4.2	0.60	1.9	7.5	8.8
<i>FLIP 2011-55L</i>	8.7	4.5	9.8	10.2	4.9	0.42	1.1	7.9	8.7
<i>FLIP 2011-56L</i>	9.9	5.7	9.1	10.5	4.7	0.57	1.4	7.6	9.5
<i>FLIP 2011-57L</i>	8.0	5.6	10.7	9.7	4.5	0.52	0.85	8.1	9.5
<i>ILL 10974</i>	8.6	5.4	11.0	10.1	4.5	0.49	1.4	7.4	7.3
<i>ILL 10975</i>	8.6	6.9	11.3	10.0	6.1	0.50	1.4	8.5	9.8
<i>FLIP 2011-60L</i>	9.7	6.6	10.8	9.6	5.6	0.62	1.0	8.1	8.7
<i>FLIP 2011-61L</i>	9.0	5.1	9.1	9.3	4.8	0.38	1.1	7.3	8.4
Mean ± SE	8.7 ± 0.1	6.0 ± 0.2	10.6 ± 0.1	9.8 ± 0.1	4.8 ± 0.1	0.53 ± 0.01	1.5 ± 0.1	7.3 ± 0.2	8.5 ± 0.2

Table S6. Antinutritional factors in lentil genotypes (on a dry weight basis).

Genotype	Protease Inhibitors	Tannins	Phytic Acids
	TIA * (mg/g)	mg/g	
<i>ILL 3375</i>	2.48	0.79	0.81
<i>FLIP2009-50L</i>	2.33	0.68	0.87
<i>FLIP 2009-51L</i>	2.64	0.78	0.80
<i>FLIP 2009-52L</i>	2.13	0.67	0.87
<i>FLIP 2009-54L</i>	2.11	0.60	1.01
<i>FLIP 2009-55L</i>	2.48	0.73	0.72
<i>FLIP 2009-56L</i>	2.50	0.74	0.89
<i>FLIP 2009-64L</i>	2.64	0.68	0.92
<i>FLIP 2009-68L</i>	2.66	0.59	0.81
<i>FLIP 2009-69L</i>	2.58	0.65	0.90
<i>FLIP 2009-70L</i>	2.65	0.64	1.06
<i>FLIP 2010-91L</i>	2.49	0.67	0.91
<i>FLIP 2010-94L</i>	2.49	0.69	1.03
<i>FLIP 2010-95L</i>	2.39	0.65	0.95
<i>FLIP 2010-96L</i>	2.61	0.73	0.93
<i>FLIP 2010-97L</i>	2.55	0.75	0.96
<i>FLIP 2010-99L</i>	2.68	0.65	0.94
<i>FLIP 2010-100L</i>	2.72	0.69	0.82
<i>FLIP 2010-101L</i>	2.54	0.68	0.87
<i>FLIP 2010-102L</i>	2.61	0.59	0.88
<i>FLIP 2010-103L</i>	2.61	0.73	0.97
<i>FLIP 2010-104L</i>	2.56	0.78	0.76
<i>FLIP 2010-105L</i>	2.57	0.74	0.92
<i>FLIP 2010-106L</i>	2.47	0.52	0.88
<i>FLIP 2011-43L</i>	2.08	0.70	0.97
<i>FLIP 2011-51L</i>	2.09	0.71	0.96
<i>FLIP 2011-52L</i>	2.69	0.68	1.01
<i>FLIP 2011-54L</i>	2.47	0.63	1.02
<i>FLIP 2011-55L</i>	2.78	0.64	1.07
<i>FLIP 2011-56L</i>	2.72	0.74	1.09
<i>FLIP 2011-57L</i>	2.59	0.54	0.87
<i>ILL 10974</i>	2.73	0.76	0.95
<i>ILL 10975</i>	2.72	0.79	1.01
<i>FLIP 2011-60L</i>	2.43	0.73	1.07
<i>FLIP 2011-61L</i>	2.53	0.62	0.98
Mean ± SE	2.52 ± 0.03	0.69 ± 0.01	0.93 ± 0.02

* TIA, trypsin inhibiting activity.

Table S7. Antioxidant in lentil genotypes.

Genotype	TPC ^a ± SD (mg GAE/g)	TFIC ^b ± SD (mg QE/g)	DPPH ^c ± SD (Vitamin C Equivalents) µg/g
<i>ILL 3375</i>	6.78 ± 0.38	4.12 ± 0.45	13.23 ± 0.22
<i>FLIP2009-50L</i>	12.58 ± 2.11	5.28 ± 0.79	22.38 ± 0.07
<i>FLIP 2009-51L</i>	11.57 ± 2.23	5.22 ± 0.40	15.62 ± 0.14
<i>FLIP 2009-52L</i>	10.38 ± 1.26	4.86 ± 0.42	12.42 ± 0.05
<i>FLIP 2009-54L</i>	15.22 ± 2.34	4.34 ± 0.61	11.27 ± 0.02
<i>FLIP 2009-55L</i>	12.69 ± 1.22	4.67 ± 0.38	16.67 ± 0.12
<i>FLIP 2009-56L</i>	14.77 ± 1.64	6.28 ± 0.22	16.28 ± 0.14
<i>FLIP 2009-64L</i>	18.63 ± 2.15	6.36 ± 0.16	15.37 ± 0.05
<i>FLIP 2009-68L</i>	18.27 ± 2.23	7.12 ± 0.34	13.19 ± 0.04
<i>FLIP 2009-69L</i>	17.45 ± 1.62	6.68 ± 0.14	15.28 ± 0.06
<i>FLIP 2009-70L</i>	14.81 ± 0.71	7.26 ± 0.22	16.86 ± 0.02
<i>FLIP 2010-91L</i>	13.24 ± 1.31	6.76 ± 0.16	11.88 ± 0.11
<i>FLIP 2010-94L</i>	12.64 ± 1.72	5.30 ± 0.13	12.13 ± 0.02
<i>FLIP 2010-95L</i>	20.01 ± 0.60	7.18 ± 0.15	19.12 ± 0.25
<i>FLIP 2010-96L</i>	20.82 ± 1.67	8.56 ± 0.18	18.74 ± 0.16
<i>FLIP 2010-97L</i>	12.43 ± 2.18	5.64 ± 0.12	13.34 ± 0.03
<i>FLIP 2010-99L</i>	19.43 ± 1.54	7.28 ± 0.17	16.25 ± 0.06
<i>FLIP 2010-100L</i>	14.82 ± 0.85	6.32 ± 0.12	14.72 ± 0.02
<i>FLIP 2010-101L</i>	17.35 ± 1.26	6.76 ± 0.15	15.56 ± 0.02
<i>FLIP 2010-102L</i>	9.51 ± 0.30	5.78 ± 0.16	12.19 ± 0.07
<i>FLIP 2010-103L</i>	16.62 ± 0.43	7.22 ± 0.18	18.36 ± 0.12
<i>FLIP 2010-104L</i>	11.53 ± 0.45	6.96 ± 0.11	14.66 ± 0.08
<i>FLIP 2010-105L</i>	7.98 ± 0.42	4.86 ± 0.13	12.54 ± 0.04
<i>FLIP 2010-106L</i>	6.87 ± 0.62	4.22 ± 0.16	13.21 ± 0.05
<i>FLIP 2011-43L</i>	8.69 ± 0.84	4.74 ± 0.12	12.84 ± 0.06
<i>FLIP 2011-51L</i>	9.16 ± 0.55	5.36 ± 0.18	11.66 ± 0.07
<i>FLIP 2011-52L</i>	6.45 ± 0.26	4.36 ± 0.06	12.32 ± 0.06
<i>FLIP 2011-54L</i>	7.68 ± 0.28	4.46 ± 0.08	10.61 ± 0.08
<i>FLIP 2011-55L</i>	7.82 ± 0.42	4.26 ± 0.11	12.23 ± 0.06
<i>FLIP 2011-56L</i>	18.22 ± 0.55	8.32 ± 0.06	17.64 ± 0.05
<i>FLIP 2011-57L</i>	17.42 ± 0.86	7.66 ± 0.14	18.14 ± 0.03
<i>ILL 10974</i>	20.52 ± 2.42	8.92 ± 0.24	23.26 ± 0.04
<i>ILL 10975</i>	6.45 ± 0.27	4.18 ± 0.05	15.11 ± 0.05
<i>FLIP 2011-60L</i>	14.24 ± 0.64	6.25 ± 0.17	15.67 ± 0.04
<i>FLIP 2011-61L</i>	18.29 ± 0.98	7.52 ± 0.04	17.46 ± 0.12

^a Total phenolic components calculated as Galic Acid Equivalent/g seed; ^b total flavenoid content (mg Quercetin Equivalent/g seed); ^c 2-Diphenyl-1-picryl hydrazyl radical (µg/g); SD, standard division.

Table S8. Proximate Analysis of Lentil Genotypes Seeds (on a dry weight basis).

Genotype	Crude Protein	Moisture	Ash	Fats	Carbohydrate
	%				
<i>ILL 3375</i>	27.2	12.4	2.67	1.03	42.7
<i>FLIP 2009-50L</i>	26.7	12.1	2.78	1.01	46.2
<i>FLIP 2009-51L</i>	28.4	12.1	2.44	1.13	44.7
<i>FLIP 2009-52L</i>	27.9	12.6	2.39	1.01	44.8
<i>FLIP 2009-54L</i>	26.5	12.4	2.66	1.14	45.0
<i>FLIP 2009-55L</i>	28.8	12.6	2.48	1.12	43.7
<i>FLIP 2009-56L</i>	26.3	12.4	2.60	0.79	46.5
<i>FLIP 2009-64L</i>	25.9	12.5	2.49	1.02	43.1
<i>FLIP 2009-68L</i>	26.7	12.5	2.52	0.98	44.8
<i>FLIP 2009-69L</i>	28.9	12.6	2.67	0.97	43.5
<i>FLIP 2009-70L</i>	25.3	13.1	2.53	0.89	40.9
<i>FLIP 2010-91L</i>	26.4	11.9	2.39	1.03	43.2
<i>FLIP 2010-94L</i>	26.7	12.1	2.57	1.19	40.9
<i>FLIP 2010-95L</i>	26.8	11.6	2.62	1.04	40.8
<i>FLIP 2010-96L</i>	29.2	12.0	2.65	0.99	47.1
<i>FLIP 2010-97L</i>	26.6	12.8	2.54	0.97	41.3
<i>FLIP 2010-99L</i>	27.2	13.3	2.47	0.76	43.6
<i>FLIP 2010-100L</i>	28.5	12.7	2.59	0.72	41.4
<i>FLIP 2010-101L</i>	29.1	12.5	2.50	0.89	41.6
<i>FLIP 2010-102L</i>	25.8	13.0	2.46	0.83	39.7
<i>FLIP 2010-103L</i>	25.3	13.4	2.89	1.16	41.5
<i>FLIP 2010-104L</i>	27.4	12.9	2.63	1.12	39.5
<i>FLIP 2010-105L</i>	28.3	12.7	2.67	1.00	43.8
<i>FLIP 2010-106L</i>	28.4	12.5	2.62	1.19	46.7
<i>FLIP 2011-43L</i>	29.0	12.4	2.63	0.95	46.4
<i>FLIP 2011-51L</i>	25.3	12.3	2.71	1.12	46.2
<i>FLIP 2011-52L</i>	25.7	12.7	2.68	1.14	45.9
<i>FLIP 2011-54L</i>	25.5	13.3	2.61	1.13	44.9
<i>FLIP 2011-55L</i>	27.4	13.6	2.78	0.97	47.0
<i>FLIP 2011-56L</i>	28.0	13.1	2.66	0.89	45.3
<i>FLIP 2011-57L</i>	29.3	12.8	2.63	0.84	46.2
<i>ILL 10974</i>	29.1	12.6	2.61	1.00	44.7
<i>ILL 10975</i>	28.4	12.7	2.83	0.97	45.2
<i>FLIP 2011-60L</i>	27.7	12.9	2.61	0.96	44.9
<i>FLIP 2011-61L</i>	27.4	13.0	2.58	1.02	46.2
Mean $\pm$ SE	27.4 $\pm$ 0.2	12.6 $\pm$ 0.1	2.61 $\pm$ 0.02	1.00 $\pm$ 0.02	44.0 $\pm$ 0.4

Figure S1. Jaccard similarity coefficient values for pairwise comparison of 35 lentil genotypes using Sequence Related Amplified Polymorphism (SRAP) primers.

	ILL-3375	FLIP2003-50L	FLIP2003-51L	FLIP2003-52L	FLIP2003-54L	FLIP2003-55L	FLIP2003-56L	FLIP2003-46L	FLIP2003-68L	FLIP2003-69L	FLIP2003-70L	FLIP2010-31L	FLIP2010-34L	FLIP2010-35L	FLIP2010-36L	FLIP2010-37L	FLIP2010-39L	FLIP2010-100L	FLIP2010-101L	FLIP2010-102L	FLIP2010-103L	FLIP2010-104L	FLIP2010-105L	FLIP2010-106L	FLIP2011-43L	FLIP2011-51L	FLIP2011-52L	FLIP2011-54L	FLIP2011-55L	FLIP2011-56L	FLIP2011-57L	ILL10974	ILL10975	FLIP2011-60L	FLIP2011-61L	
ILL-3375	1																																			
FLIP2003-50L	0.30	1.00																																		
FLIP2003-51L	0.00	0.21	1.00																																	
FLIP2003-52L	0.29	0.41	0.34	1.00																																
FLIP2003-54L	0.18	0.33	0.38	0.35	1.00																															
FLIP2003-55L	0.25	0.43	0.29	0.50	0.34	1.00																														
FLIP2003-56L	0.12	0.29	0.23	0.27	0.30	0.38	1.00																													
FLIP2003-46L	0.24	0.23	0.14	0.29	0.25	0.27	0.28	1.00																												
FLIP2003-68L	0.41	0.47	0.12	0.40	0.29	0.39	0.35	0.34	1.00																											
FLIP2003-69L	0.32	0.31	0.18	0.36	0.27	0.31	0.23	0.27	0.35	1.00																										
FLIP2003-70L	0.17	0.24	0.36	0.31	0.35	0.33	0.22	0.24	0.23	0.26	1.00																									
FLIP2010-31L	0.32	0.38	0.26	0.39	0.39	0.36	0.28	0.30	0.40	0.40	0.25	1.00																								
FLIP2010-34L	0.00	0.17	0.30	0.18	0.16	0.18	0.28	0.12	0.18	0.20	0.14	0.17	1.00																							
FLIP2010-35L	0.21	0.33	0.19	0.33	0.29	0.29	0.34	0.34	0.39	0.25	0.17	0.29	0.22	1.00																						
FLIP2010-36L	0.27	0.42	0.44	0.54	0.38	0.46	0.23	0.21	0.38	0.34	0.46	0.35	0.23	0.28	1.00																					
FLIP2010-37L	0.36	0.52	0.24	0.52	0.36	0.48	0.36	0.29	0.51	0.44	0.28	0.45	0.21	0.40	0.47	1.00																				
FLIP2010-39L	0.20	0.30	0.22	0.46	0.36	0.50	0.35	0.34	0.37	0.36	0.27	0.39	0.23	0.39	0.34	0.46	1.00																			
FLIP2010-100L	0.28	0.42	0.31	0.49	0.43	0.50	0.29	0.28	0.37	0.37	0.44	0.40	0.17	0.31	0.48	0.45	0.40	1.00																		
FLIP2010-101L	0.26	0.37	0.35	0.46	0.33	0.39	0.21	0.24	0.30	0.34	0.74	0.34	0.12	0.18	0.59	0.38	0.23	0.54	1.00																	
FLIP2010-102L	0.30	0.36	0.22	0.42	0.40	0.36	0.21	0.28	0.40	0.33	0.28	0.46	0.13	0.27	0.38	0.40	0.30	0.43	0.34	1.00																
FLIP2010-103L	0.10	0.20	0.15	0.24	0.20	0.21	0.25	0.24	0.22	0.21	0.16	0.19	0.28	0.26	0.20	0.20	0.31	0.17	0.14	0.09	1.00															
FLIP2010-104L	0.40	0.48	0.14	0.44	0.30	0.44	0.36	0.30	0.58	0.36	0.24	0.41	0.22	0.37	0.40	0.58	0.39	0.43	0.31	0.42	0.21	1.00														
FLIP2010-105L	0.24	0.41	0.26	0.44	0.33	0.33	0.27	0.27	0.41	0.44	0.34	0.38	0.23	0.31	0.45	0.43	0.37	0.44	0.39	0.32	0.34	0.40	1.00													
FLIP2010-106L	0.35	0.33	0.16	0.39	0.29	0.35	0.25	0.29	0.48	0.40	0.27	0.43	0.16	0.24	0.34	0.38	0.36	0.38	0.35	0.36	0.22	0.44	0.39	1.00												
FLIP2011-43L	0.22	0.31	0.28	0.37	0.31	0.33	0.20	0.24	0.26	0.34	0.54	0.36	0.15	0.19	0.42	0.32	0.29	0.51	0.70	0.33	0.20	0.24	0.41	0.34	1.00											
FLIP2011-51L	0.37	0.41	0.19	0.49	0.35	0.45	0.33	0.36	0.50	0.46	0.31	0.51	0.21	0.33	0.45	0.53	0.45	0.48	0.38	0.47	0.22	0.56	0.47	0.49	0.34	1.00										
FLIP2011-52L	0.29	0.42	0.22	0.38	0.35	0.28	0.21	0.28	0.44	0.45	0.27	0.43	0.23	0.29	0.42	0.43	0.38	0.37	0.34	0.34	0.32	0.39	0.52	0.37	0.35	0.44	1.00									
FLIP2011-54L	0.34	0.41	0.18	0.43	0.30	0.40	0.34	0.29	0.50	0.47	0.28	0.40	0.24	0.36	0.39	0.52	0.40	0.43	0.35	0.37	0.20	0.49	0.42	0.44	0.33	0.55	0.40	1.00								
FLIP2011-55L	0.08	0.10	0.00	0.10	0.08	0.10	0.11	0.13	0.13	0.10	0.05	0.05	0.06	0.13	0.05	0.14	0.08	0.08	0.00	0.09	0.00	0.11	0.08	0.09	0.01	0.12	0.10	0.12	1.00							
FLIP2011-56L	0.26	0.38	0.26	0.42	0.38	0.43	0.44	0.34	0.48	0.41	0.29	0.43	0.25	0.37	0.35	0.57	0.46	0.45	0.31	0.38	0.22	0.47	0.43	0.40	0.31	0.52	0.40	0.52	0.11	1.00						
FLIP2011-57L	0.11	0.15	0.11	0.14	0.21	0.17	0.31	0.19	0.31	0.17	0.09	0.19	0.24	0.27	0.09	0.22	0.22	0.15	0.04	0.16	0.13	0.24	0.14	0.17	0.06	0.22	0.19	0.21	0.19	0.23	1.00					
ILL10974	0.32	0.38	0.36	0.48	0.39	0.43	0.29	0.31	0.42	0.33	0.41	0.39	0.16	0.29	0.49	0.49	0.34	0.49	0.54	0.42	0.18	0.42	0.38	0.40	0.40	0.45	0.36	0.40	0.09	0.43	0.17	1.00				
ILL10975	0.28	0.42	0.35	0.58	0.39	0.59	0.34	0.33	0.45	0.38	0.40	0.41	0.19	0.34	0.51	0.50	0.43	0.59	0.44	0.42	0.18	0.47	0.44	0.45	0.39	0.51	0.39	0.47	0.08	0.47	0.16	0.56	1.00			
FLIP2011-60L	0.23	0.30	0.16	0.34	0.40	0.28	0.32	0.37	0.42	0.34	0.26	0.39	0.16	0.31	0.28	0.37	0.39	0.32	0.20	0.32	0.32	0.39	0.39	0.41	0.22	0.45	0.41	0.34	0.12	0.39	0.25	0.35	0.38	1.00		
FLIP2011-61L	0.23	0.41	0.31	0.43	0.33	0.41	0.29	0.23	0.41	0.48	0.39	0.42	0.28	0.30	0.49	0.45	0.40	0.50	0.39	0.32	0.28	0.42	0.64	0.38	0.44	0.51	0.62	0.52	0.00	0.49	0.11	0.35	0.49	0.31	1.00	

Figure S2. Jaccard similarity coefficient values for pairwise comparison of 35 lentil genotypes using Amplified Fragment Length Polymorphism (AFLP).

	ILL-3375	FLIP2009-50L	FLIP2009-51L	FLIP2009-52L	FLIP2009-54L	FLIP2009-55L	FLIP2009-56L	FLIP2009-46L	FLIP2009-68L	FLIP2009-69L	FLIP2009-70L	FLIP2010-91L	FLIP2010-94L	FLIP2010-95L	FLIP2010-96L	FLIP2010-97L	FLIP2010-99L	FLIP2010-100L	FLIP2010-101L	FLIP2010-102L	FLIP2010-103L	FLIP2010-104L	FLIP2010-105L	FLIP2010-106L	FLIP2011-43L	FLIP2011-51L	FLIP2011-52L	FLIP2011-54L	FLIP2011-55L	FLIP2011-56L	FLIP2011-57L	ILL10974	ILL10975	FLIP2011-60L	FLIP2011-61L
ILL-3375	1.00																																		
FLIP2009-50L	0.55	1.00																																	
FLIP2009-51L	0.54	0.46	1.00																																
FLIP2009-52L	0.56	0.54	0.55	1.00																															
FLIP2009-54L	0.42	0.30	0.28	0.31	1.00																														
FLIP2009-55L	0.30	0.28	0.34	0.29	0.40	1.00																													
FLIP2009-56L	0.41	0.33	0.33	0.31	0.47	0.46	1.00																												
FLIP2009-46L	0.20	0.17	0.19	0.17	0.37	0.32	0.37	1.00																											
FLIP2009-68L	0.10	0.08	0.11	0.08	0.17	0.22	0.24	0.30	1.00																										
FLIP2009-69L	0.57	0.55	0.49	0.60	0.32	0.29	0.33	0.19	0.10	1.00																									
FLIP2009-70L	0.18	0.15	0.19	0.16	0.15	0.22	0.24	0.14	0.29	0.17	1.00																								
FLIP2010-91L	0.57	0.42	0.46	0.51	0.43	0.36	0.41	0.27	0.13	0.54	0.19	1.00																							
FLIP2010-94L	0.12	0.10	0.18	0.10	0.19	0.28	0.26	0.19	0.38	0.09	0.38	0.13	1.00																						
FLIP2010-95L	0.44	0.44	0.36	0.36	0.45	0.38	0.39	0.29	0.13	0.43	0.11	0.40	0.15	1.00																					
FLIP2010-96L	0.29	0.32	0.39	0.29	0.12	0.30	0.20	0.10	0.15	0.36	0.30	0.30	0.30	0.22	1.00																				
FLIP2010-97L	0.39	0.33	0.42	0.38	0.28	0.33	0.27	0.29	0.16	0.35	0.12	0.34	0.15	0.52	0.35	1.00																			
FLIP2010-99L	0.49	0.48	0.47	0.49	0.41	0.49	0.45	0.25	0.14	0.53	0.19	0.46	0.18	0.50	0.36	0.44	1.00																		
FLIP2010-100L	0.39	0.36	0.44	0.41	0.14	0.27	0.23	0.09	0.17	0.36	0.33	0.29	0.19	0.19	0.38	0.27	0.36	1.00																	
FLIP2010-101L	0.37	0.38	0.36	0.33	0.09	0.17	0.16	0.10	0.12	0.40	0.30	0.30	0.13	0.15	0.39	0.21	0.28	0.64	1.00																
FLIP2010-102L	0.32	0.28	0.33	0.29	0.37	0.40	0.45	0.37	0.27	0.28	0.15	0.42	0.16	0.42	0.21	0.47	0.41	0.28	0.19	1.00															
FLIP2010-103L	0.39	0.40	0.36	0.34	0.45	0.32	0.42	0.33	0.14	0.46	0.19	0.42	0.13	0.38	0.24	0.26	0.46	0.16	0.22	0.27	1.00														
FLIP2010-104L	0.42	0.40	0.39	0.40	0.40	0.46	0.49	0.30	0.18	0.47	0.19	0.49	0.15	0.49	0.25	0.34	0.49	0.20	0.18	0.40	0.52	1.00													
FLIP2010-105L	0.20	0.18	0.26	0.27	0.12	0.28	0.15	0.18	0.24	0.30	0.34	0.32	0.23	0.21	0.41	0.30	0.23	0.33	0.32	0.26	0.17	0.32	1.00												
FLIP2010-106L	0.47	0.40	0.47	0.43	0.38	0.36	0.42	0.33	0.13	0.44	0.21	0.60	0.17	0.49	0.29	0.43	0.49	0.28	0.25	0.42	0.49	0.56	0.27	1.00											
FLIP2011-43L	0.53	0.37	0.41	0.36	0.38	0.37	0.35	0.24	0.11	0.41	0.30	0.49	0.14	0.42	0.29	0.39	0.38	0.26	0.28	0.33	0.41	0.44	0.26	0.46	1.00										
FLIP2011-51L	0.50	0.56	0.47	0.57	0.34	0.34	0.35	0.19	0.11	0.60	0.23	0.51	0.12	0.40	0.35	0.33	0.54	0.36	0.36	0.33	0.44	0.48	0.25	0.47	0.47	1.00									
FLIP2011-52L	0.58	0.44	0.57	0.55	0.32	0.32	0.36	0.20	0.10	0.54	0.18	0.48	0.14	0.44	0.33	0.39	0.48	0.32	0.27	0.29	0.39	0.53	0.25	0.55	0.46	0.54	1.00								
FLIP2011-54L	0.48	0.45	0.48	0.41	0.32	0.37	0.34	0.24	0.12	0.43	0.21	0.41	0.23	0.53	0.38	0.50	0.58	0.34	0.27	0.36	0.36	0.45	0.30	0.52	0.43	0.41	0.53	1.00							
FLIP2011-55L	0.27	0.27	0.30	0.30	0.38	0.36	0.40	0.42	0.19	0.29	0.10	0.36	0.15	0.38	0.13	0.26	0.40	0.15	0.11	0.38	0.34	0.38	0.22	0.34	0.28	0.30	0.32	0.35	1.00						
FLIP2011-56L	0.38	0.38	0.41	0.36	0.40	0.49	0.44	0.27	0.18	0.41	0.21	0.38	0.26	0.47	0.32	0.36	0.68	0.29	0.19	0.40	0.43	0.49	0.28	0.47	0.34	0.40	0.41	0.56	0.43	1.00					
FLIP2011-57L	0.45	0.38	0.41	0.40	0.44	0.38	0.58	0.34	0.20	0.40	0.31	0.51	0.17	0.35	0.22	0.28	0.49	0.27	0.23	0.32	0.60	0.51	0.23	0.59	0.46	0.43	0.44	0.41	0.40	0.42	1.00				
ILL10974	0.48	0.47	0.50	0.43	0.22	0.30	0.31	0.25	0.16	0.50	0.22	0.45	0.11	0.31	0.31	0.41	0.45	0.51	0.45	0.35	0.32	0.36	0.32	0.44	0.37	0.37	0.40	0.45	0.25	0.38	0.46	1			
ILL10975	0.44	0.44	0.48	0.43	0.26	0.30	0.33	0.22	0.14	0.49	0.20	0.43	0.11	0.32	0.29	0.38	0.44	0.44	0.43	0.33	0.33	0.43	0.28	0.47	0.35	0.37	0.38	0.44	0.25	0.46	0.39	0.64	1.00		
FLIP2011-60L	0.29	0.28	0.33	0.29	0.22	0.27	0.24	0.33	0.24	0.31	0.20	0.37	0.19	0.30	0.31	0.35	0.30	0.34	0.29	0.45	0.23	0.35	0.41	0.45	0.27	0.29	0.31	0.36	0.29	0.35	0.27	0.42	0.37	1.00	
FLIP2011-61L	0.17	0.16	0.23	0.15	0.12	0.20	0.12	0.18	0.26	0.17	0.14	0.18	0.24	0.27	0.31	0.29	0.20	0.25	0.21	0.28	0.12	0.24	0.36	0.24	0.16	0.14	0.22	0.25	0.15	0.24	0.11	0.23	0.23	0.42	