

Table S3. (a) Summary of the mixed model analysis performed for the grain number components studied comprising 553 NILs carrying the Avalon or Cadenza alleles in the introgressed region in 2013 (spikes/m² (S), spikelet/spike (s/S) and grains/spikelet (G/S); the significant levels are based on the Wald test). (b) Average values for the two groups (carrying the Avalon or Cadenza alleles in the QTL region) based on the chromosome and background in 2013. Significant difference between Avalon and Cadenza alleles are highlighted in bold (spikes/m² (S), spikelet/spike (s/S) and grains/spikelet (G/S)).

(a)	Source of variation	d.f.	S		s/S		G/S	
			Wald-test	p-value	Wald-test	p-value	Wald-test	p-value
	Background (B)	1	0.82	0.364	147.29	<0.001	33.75	<0.001
	Chromosome (C)	10	11.79	0.303	18.00	0.058	34.19	<0.001
	Allele (A)	1	0.01	0.940	11.66	<0.001	1.74	0.187
	B.C	7	34.15	<0.001	24.65	0.001	30.22	<0.001
	B.A	1	0.01	0.903	0.95	0.331	3.00	0.084
	C.A	10	9.16	0.518	21.86	0.017	24.58	0.007
	B.C.A	7	5.77	0.567	11.80	0.110	4.23	0.753

(b)	Background	Chromosome	S		s/S		G/S	
			Allele		Allele		Allele	
			Avalon	Cadenza	Avalon	Cadenza	Avalon	Cadenza
Avalon		1B	358.00	356.60	19.16	18.79	2.65	2.51
		1D	350.80	353.20	19.18	18.78	2.52	2.57
		2A	297.50	318.00	19.23	19.59	2.81	2.56
		2D	335.50	338.10	18.96	18.81	2.57	2.56
		3A	337.60	342.30	19.21	19.98	2.64	2.71
		3B	320.50	327.80	18.85	18.74	2.74	2.80
		5A	342.90	352.30	19.07	18.52	2.53	2.38
		6A	352.70	356.70	18.92	19.69	2.59	2.62
		6B	358.60	351.2	18.96	19.51	2.64	2.66
		7B	357.30	303.80	18.76	19.41	2.61	2.61
		7D	351.90	341.80	19.35	19.55	2.66	2.62
Cadenza		1B	343.60	349.90	19.98	20.14	2.52	2.58
		1D	350.20	336.60	20.12	20.10	2.53	2.53
		2A	354.50	343.40	19.90	19.83	2.59	2.39
		2D	331.50	349.90	19.68	20.26	2.56	2.56
		3A	341.20	334.00	19.45	20.34	2.42	2.63
		3B	346.90	350.40	20.17	20.03	2.51	2.52
		5A	-	-	-	-	-	-
		6A	335.40	329.40	19.31	19.71	2.37	2.47
		6B	331.80	340.50	20.12	20.03	2.57	2.57
		7B	-	-	-	-	-	-
		7D	-	-	-	-	-	-
Average s.e.d			15.530		0.390		0.087	