

Supplementary tables

RN in Taipei

Details

Item	Details
Number of blocks	8
Number of treatments	637
Number of check treatments	6
Number of test treatments	631
Check treatments	TW_0001, TW_0003, TW_0005, TW_0007, TW_0009, TW_0011

ANOVA, Treatment Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Block (ignoring Treatments)	7	15.51	2.22	89.3	2e-20
Treatment (eliminating Blocks)	636	116.82	0.18	7.4	3.5e-10
Treatment: Check	5	2.38	0.48	19.21	3.6e-09
Treatment: Test and Test vs. Check	631	114.44	0.18	7.31	4.2e-10
Residuals	35	0.87	0.02		

ANOVA, Block Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Treatment (ignoring Blocks)	636	131.76	0.21	8.35	5.5e-11
Treatment: Check	5	2.38	0.48	19.21	3.6e-09
Treatment: Test	630	128.3	0.2	8.21	7.2e-11
Treatment: Test vs. Check	1	1.07	1.07	43.18	1.4e-07
Block (eliminating Treatments)	7	0.58	0.08	3.32	0.01
Residuals	35	0.87	0.02		

RSA_3 in Taipei

Details

Item	Details
Number of blocks	8
Number of treatments	637
Number of check treatments	6
Number of test treatments	631
Check treatments	TW_0001, TW_0003, TW_0005, TW_0007, TW_0009, TW_0011

ANOVA, Treatment Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Block (ignoring Treatments)	7	303843.38	43406.2	124.64	8.1e-23
Treatment (eliminating Blocks)	636	270704.11	425.64	1.22	0.24
Treatment: Check	5	6840.59	1368.12	3.93	0.01
Treatment: Test and Test vs. Check	631	263863.51	418.17	1.2	0.26
Residuals	35	12189.12	348.26		

ANOVA, Block Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Treatment (ignoring Blocks)	636	548517.21	862.45	2.48	0.00077
Treatment: Check	5	6840.59	1368.12	3.93	0.01
Treatment: Test	630	518886.47	823.63	2.36	0.0013
Treatment: Test vs. Check	1	22790.15	22790.15	65.44	1.6e-09
Block (eliminating Treatments)	7	26030.28	3718.61	10.68	4.1e-07
Residuals	35	12189.12	348.26		

Test: unique genotype. In this study, test corresponds to individuals from the CORE panel.

RSA_4 in Taipei

Details

Item	Details
Number of blocks	8
Number of treatments	637
Number of check treatments	6
Number of test treatments	631
Check treatments	TW_0001, TW_0003, TW_0005, TW_0007, TW_0009, TW_0011

ANOVA, Treatment Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Block (ignoring Treatments)	7	519377.07	74196.72	160.01	1.2e-24
Treatment (eliminating Blocks)	636	409888.04	644.48	1.39	0.11
Treatment: Check	5	11849.72	2369.94	5.11	0.0013
Treatment: Test and Test vs. Check	631	398038.32	630.81	1.36	0.13
Residuals	35	16229.03	463.69		

ANOVA, Block Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Treatment (ignoring Blocks)	636	906081.51	1424.66	3.07	6.6e-05
Treatment: Check	5	11849.72	2369.94	5.11	0.0013
Treatment: Test	630	869247.33	1379.76	2.98	9.6e-05
Treatment: Test vs. Check	1	24984.45	24984.45	53.88	1.4e-08
Block (eliminating Treatments)	7	23183.6	3311.94	7.14	2.6e-05
Residuals	35	16229.03	463.69		

RSA_5 in Taipei

Details

Item	Details
Number of blocks	8
Number of treatments	637
Number of check treatments	6
Number of test treatments	631
Check treatments	TW_0001, TW_0003, TW_0005, TW_0007, TW_0009, TW_0011

ANOVA, Treatment Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Block (ignoring Treatments)	7	384881.45	54983.06	84.06	5.5e-20
Treatment (eliminating Blocks)	636	555871.56	874.01	1.34	0.15
Treatment: Check	5	21089.17	4217.83	6.45	0.00024
Treatment: Test and Test vs. Check	631	534782.39	847.52	1.3	0.17
Residuals	35	22893.13	654.09		

ANOVA, Block Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Treatment (ignoring Blocks)	636	917478.73	1442.58	2.21	0.0026
Treatment: Check	5	21089.17	4217.83	6.45	0.00024
Treatment: Test	630	870271.26	1381.38	2.11	0.004
Treatment: Test vs. Check	1	26118.3	26118.3	39.93	2.9e-07
Block (eliminating Treatments)	7	23274.28	3324.9	5.08	0.00047
Residuals	35	22893.13	654.09		

AVRSA in Taipei

Details

Item	Details
Number of blocks	8
Number of treatments	637
Number of check treatments	6
Number of test treatments	631
Check treatments	TW_0001, TW_0003, TW_0005, TW_0007, TW_0009, TW_0011

ANOVA, Treatment Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Block (ignoring Treatments)	7	32322.35	4617.48	76.04	2.8e-19
Treatment (eliminating Blocks)	636	52256.63	82.16	1.35	0.14
Treatment: Check	5	2159.01	431.8	7.11	0.00011
Treatment: Test and Test vs. Check	631	50097.62	79.39	1.31	0.17
Residuals	35	2125.38	60.73		

ANOVA, Block Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Treatment (ignoring Blocks)	636	82380.06	129.53	2.13	0.0036
Treatment: Check	5	2159.01	431.8	7.11	0.00011
Treatment: Test	630	78862.79	125.18	2.06	0.005
Treatment: Test vs. Check	1	1358.27	1358.27	22.37	3.6e-05
Block (eliminating Treatments)	7	2198.91	314.13	5.17	0.00041
Residuals	35	2125.38	60.73		

RG_4 in Taipei

Details

Item	Details
Number of blocks	8
Number of treatments	637
Number of check treatments	6
Number of test treatments	631
Check treatments	TW_0001, TW_0003, TW_0005, TW_0007, TW_0009, TW_0011

ANOVA, Treatment Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Block (ignoring Treatments)	7	58173.99	8310.57	55.83	4.08E-17
Treatment (eliminating Blocks)	636	121522.47	191.07	1.28	0.18
Treatment: Check	5	2060.64	412.13	2.77	0.03
Treatment: Test and Test vs. Check	631	119461.82	189.32	1.27	0.19
Residuals	35	5209.74	148.85		

ANOVA, Block Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Treatment (ignoring Blocks)	636	177317.52	278.80	1.87	0.0120
Treatment: Check	5	2060.64	412.13	2.77	0.0329
Treatment: Test	630	175206.46	278.11	1.87	0.0123
Treatment: Test vs. Check	1	50.42	50.42	0.34	0.5643
Block (eliminating Treatments)	7	2378.94	339.85	2.28	0.0502
Residuals	35	5209.74	148.85		

RG_5 in Taipei

Details

Item	Details
Number of blocks	8
Number of treatments	637
Number of check treatments	6
Number of test treatments	631
Check treatments	TW_0001, TW_0003, TW_0005, TW_0007, TW_0009, TW_0011

ANOVA, Treatment Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Block (ignoring Treatments)	7	45632.39	6518.91	22.92	2.61E-11
Treatment (eliminating Blocks)	636	128013.60	201.28	0.71	0.94
Treatment: Check	5	2260.40	452.08	1.59	0.19
Treatment: Test and Test vs. Check	631	125753.19	199.29	0.70	0.95
Residuals	35	9954.68	284.42		

ANOVA, Block Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Treatment (ignoring Blocks)	636	168219.62	264.50	0.93	0.64
Treatment: Check	5	2260.40	452.08	1.59	0.19
Treatment: Test	630	165946.63	263.41	0.93	0.65
Treatment: Test vs. Check	1	12.58	12.58	0.04	0.83
Block (eliminating Treatments)	7	5426.37	775.20	2.73	0.02
Residuals	35	9954.68	284.42		

RRGR_4 in Taipei

Details

Item	Details
Number of blocks	8
Number of treatments	637
Number of check treatments	6
Number of test treatments	631
Check treatments	TW_0001, TW_0003, TW_0005, TW_0007, TW_0009, TW_0011

ANOVA, Treatment Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Block (ignoring Treatments)	7	6.120	0.874	14.163	1.48E-08
Treatment (eliminating Blocks)	636	17.344	0.027	0.442	1.000
Treatment: Check	5	0.463	0.093	1.501	0.215
Treatment: Test and Test vs. Check	631	16.880	0.027	0.433	1.000
Residuals	35	2.161	0.062		

ANOVA, Block Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Treatment (ignoring Blocks)	636	21.83	0.034	0.556	0.996
Treatment: Check	5	0.46	0.093	1.501	0.215
Treatment: Test	630	20.48	0.033	0.527	0.998
Treatment: Test vs. Check	1	0.88	0.879	14.247	0.001
Block (eliminating Treatments)	7	1.64	0.234	3.788	0.004
Residuals	35	2.16	0.062		

RRGR_5 in Taipei

Details

Item	Details
Number of blocks	8
Number of treatments	637
Number of check treatments	6
Number of test treatments	631
Check treatments	TW_0001, TW_0003, TW_0005, TW_0007, TW_0009, TW_0011

ANOVA, Treatment Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Block (ignoring Treatments)	7	5.188	0.741	33.592	1.04E-13
Treatment (eliminating Blocks)	636	8.073	0.013	0.575	0.994
Treatment: Check	5	0.094	0.019	0.848	0.525
Treatment: Test and Test vs. Check	631	7.980	0.013	0.573	0.994
Residuals	35	0.772	0.022		

ANOVA, Block Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Treatment (ignoring Blocks)	636	12.64	0.020	0.901	0.693
Treatment: Check	5	0.09	0.019	0.848	0.525
Treatment: Test	630	12.46	0.020	0.896	0.700
Treatment: Test vs. Check	1	0.09	0.093	4.221	0.047
Block (eliminating Treatments)	7	0.62	0.088	3.993	0.003
Residuals	35	0.77	0.022		

SL_4 in Taipei

Details

Item	Details
Number of blocks	8
Number of treatments	637
Number of check treatments	6
Number of test treatments	631
Check treatments	TW_0001, TW_0003, TW_0005, TW_0007, TW_0009, TW_0011

ANOVA, Treatment Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Block (ignoring Treatments)	7	9567.72	1366.82	164.23	7.8e-25
Treatment (eliminating Blocks)	636	25568.1	40.2	4.83	1.8e-07
Treatment: Check	5	379	75.8	9.11	1.3e-05
Treatment: Test and Test vs. Check	631	25189.1	39.92	4.8	2e-07
Residuals	35	291.28	8.32		

ANOVA, Block Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Treatment (ignoring Blocks)	636	33525.24	52.71	6.33	3.6e-09
Treatment: Check	5	379	75.8	9.11	1.3e-05
Treatment: Test	630	30447.32	48.33	5.81	1.3e-08
Treatment: Test vs. Check	1	2698.92	2698.92	324.3	2.8e-19
Block (eliminating Treatments)	7	1610.58	230.08	27.65	1.8e-12
Residuals	35	291.28	8.32		

SL_5 in Taipei

Details

Item	Details
Number of blocks	8
Number of treatments	637
Number of check treatments	6
Number of test treatments	631
Check treatments	TW_0001, TW_0003, TW_0005, TW_0007, TW_0009, TW_0011

ANOVA, Treatment Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Block (ignoring Treatments)	7	37736.93	5390.99	179.42	1.7e-25
Treatment (eliminating Blocks)	636	98336.17	154.62	5.15	7.3e-08
Treatment: Check	5	1417.16	283.43	9.43	9.2e-06
Treatment: Test and Test vs. Check	631	96919	153.6	5.11	8e-08
Residuals	35	1051.64	30.05		

ANOVA, Block Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Treatment (ignoring Blocks)	636	130426.21	205.07	6.83	1.2e-09
Treatment: Check	5	1417.16	283.43	9.43	9.2e-06
Treatment: Test	630	119335.72	189.42	6.3	3.9e-09
Treatment: Test vs. Check	1	9673.32	9673.32	321.94	3.2e-19
Block (eliminating Treatments)	7	5646.89	806.7	26.85	2.8e-12
Residuals	35	1051.64	30.05		

SG_5 in Taipei

Details

Item	Details
Number of blocks	8
Number of treatments	637
Number of check treatments	6
Number of test treatments	631
Check treatments	TW_0001, TW_0003, TW_0005, TW_0007, TW_0009, TW_0011

ANOVA, Treatment Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Block (ignoring Treatments)	7	12754.01	1822.00	114.43	3.37E-22
Treatment (eliminating Blocks)	636	35756.95	56.22	3.53	1.17E-05
Treatment: Check	5	404.14	80.83	5.08	0.0013
Treatment: Test and Test vs. Check	631	35352.81	56.03	3.52	1.23E-05
Residuals	35	557.29	15.92		

ANOVA, Block Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Treatment (ignoring Blocks)	636	47100.29	74.06	4.65	3.00E-07
Treatment: Check	5	404.14	80.83	5.08	0.0013
Treatment: Test	630	44543.01	70.70	4.44	5.69E-07
Treatment: Test vs. Check	1	2153.14	2153.14	135.23	1.42E-13
Block (eliminating Treatments)	7	1410.67	201.52	12.66	5.78E-08
Residuals	35	557.29	15.92		

SRGR_5 in Taipei

Details

Item	Details
Number of blocks	8
Number of treatments	637
Number of check treatments	6
Number of test treatments	631
Check treatments	TW_0001, TW_0003, TW_0005, TW_0007, TW_0009, TW_0011

ANOVA, Treatment Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Block (ignoring Treatments)	7	11.47	1.64	30.13	5.19E-13
Treatment (eliminating Blocks)	636	42.06	0.07	1.22	0.24
Treatment: Check	5	0.25	0.05	0.93	0.47
Treatment: Test and Test vs. Check	631	41.81	0.07	1.22	0.24
Residuals	35	1.90	0.05		

ANOVA, Block Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Treatment (ignoring Blocks)	636	52.50	0.083	1.518	0.064
Treatment: Check	5	0.25	0.050	0.928	0.474
Treatment: Test	630	52.25	0.083	1.525	0.062
Treatment: Test vs. Check	1	0.00	0.00041	0.00760	0.931
Block (eliminating Treatments)	7	1.02	0.146	2.684	0.025
Residuals	35	1.90	0.054		

RN in Aberdeen

Details

Item	Details
Number of blocks	12
Number of treatments	647
Number of check treatments	2
Number of test treatments	645
Check treatments	TW_0001, TW_0003

ANOVA, Treatment Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Block (ignoring Treatments)	11	14.5	1.32	50.87	2e-47
Treatment (eliminating Blocks)	646	128.35	0.2	7.67	5.5e-41
Treatment: Check	1	1.8	1.8	69.65	2.6e-14
Treatment: Test and Test vs. Check	645	126.55	0.2	7.57	1.3e-40
Residuals	166	4.3	0.03		

ANOVA, Block Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Treatment (ignoring Blocks)	646	142.48	0.22	8.51	3.5e-44
Treatment: Check	1	0.54	0.54	21.03	8.9e-06
Treatment: Test	644	132.05	0.21	7.92	6.2e-42
Treatment: Test vs. Check	1	9.88	9.88	381.42	7.2e-45
Block (eliminating Treatments)	11	0.37	0.03	1.3	0.23
Residuals	166	4.3	0.03		

RSA_4 in Aberdeen

Details

Item	Details
Number of blocks	12
Number of treatments	647
Number of check treatments	2
Number of test treatments	645
Check treatments	TW_0001, TW_0003

ANOVA, Treatment Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Block (ignoring Treatments)	11	218102.45	19827.5	28.82	4.6e-33
Treatment (eliminating Blocks)	646	428852.33	663.86	0.97	0.62
Treatment: Check	1	1968.26	1968.26	2.86	0.09
Treatment: Test and Test vs. Check	645	426884.07	661.84	0.96	0.63
Residuals	166	114190.69	687.9		

ANOVA, Block Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Treatment (ignoring Blocks)	646	626010.67	969.06	1.41	0.0039
Treatment: Check	1	650.23	650.23	0.95	0.33
Treatment: Test	644	625246.66	970.88	1.41	0.0037
Treatment: Test vs. Check	1	113.77	113.77	0.17	0.68
Block (eliminating Treatments)	11	20944.11	1904.01	2.77	0.0025
Residuals	166	114190.69	687.9		

RSA_5 in Aberdeen

Details

Item	Details
Number of blocks	12
Number of treatments	647
Number of check treatments	2
Number of test treatments	645
Check treatments	TW_0001, TW_0003

ANOVA, Treatment Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Block (ignoring Treatments)	11	558840.49	50803.68	65.12	2.3e-54
Treatment (eliminating Blocks)	646	559061.89	865.42	1.11	0.21
Treatment: Check	1	290.59	290.59	0.37	0.54
Treatment: Test and Test vs. Check	645	558771.31	866.31	1.11	0.21
Residuals	166	129515.04	780.21		

ANOVA, Block Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Treatment (ignoring Blocks)	646	1087372.47	1683.24	2.16	4.7e-09
Treatment: Check	1	12192.72	12192.72	15.63	0.00011
Treatment: Test	644	1062234.86	1649.43	2.11	1.1e-08
Treatment: Test vs. Check	1	12944.89	12944.89	16.59	7.2e-05
Block (eliminating Treatments)	11	30529.91	2775.45	3.56	0.00017
Residuals	166	129515.04	780.21		

AVRSA in Aberdeen

Details

Item	Details
Number of blocks	12
Number of treatments	647
Number of check treatments	2
Number of test treatments	645
Check treatments	TW_0001, TW_0003

ANOVA, Treatment Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Block (ignoring Treatments)	11	46262.57	4205.69	47.81	9.9e-46
Treatment (eliminating Blocks)	646	50589.43	78.31	0.89	0.84
Treatment: Check	1	171.45	171.45	1.95	0.16
Treatment: Test and Test vs. Check	645	50417.98	78.17	0.89	0.84
Residuals	166	14602.4	87.97		

ANOVA, Block Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Treatment (ignoring Blocks)	646	93560.89	144.83	1.65	6.6e-05
Treatment: Check	1	2022.08	2022.08	22.99	3.6e-06
Treatment: Test	644	91533.35	142.13	1.62	0.00011
Treatment: Test vs. Check	1	5.45	5.45	0.06	0.8
Block (eliminating Treatments)	11	3291.11	299.19	3.4	0.00028
Residuals	166	14602.4	87.97		

RG_5 in Aberdeen

Details

Item	Details
Number of blocks	12
Number of treatments	647
Number of check treatments	2
Number of test treatments	645
Check treatments	TW_0001, TW_0003

ANOVA, Treatment Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Block (ignoring Treatments)	11	164130.06	14920.91	12.12	1.52E-16
Treatment (eliminating Blocks)	646	165803.18	256.66	0.21	1
Treatment: Check	1	746.30	746.30	0.61	0.44
Treatment: Test and Test vs. Check	645	165056.88	255.90	0.21	1
Residuals	166	204384.28	1231.23		

ANOVA, Block Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Treatment (ignoring Blocks)	646	310470.35	480.60	0.39	1
Treatment: Check	1	7211.57	7211.57	5.86	1.66E-02
Treatment: Test	644	292627.29	454.39	0.37	1
Treatment: Test vs. Check	1	10631.49	10631.49	8.63	0.0038
Block (eliminating Treatments)	11	19462.89	1769.35	1.44	0.16
Residuals	166	204384.28	1231.23		

RRGR_5 in Aberdeen

Details

Item	Details
Number of blocks	12
Number of treatments	647
Number of check treatments	2
Number of test treatments	645
Check treatments	TW_0001, TW_0003

ANOVA, Treatment Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Block (ignoring Treatments)	11	19.85	1.80	6.65	3.68E-09
Treatment (eliminating Blocks)	646	31.30	0.05	0.18	1
Treatment: Check	1	0.30	0.30	1.10	0.30
Treatment: Test and Test vs. Check	645	31.00	0.05	0.18	1
Residuals	166	45.08	0.27		

ANOVA, Block Adjusted

Source	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Treatment (ignoring Blocks)	646	48.35	0.075	0.28	1
Treatment: Check	1	4.08	4.079	15.02	0.000153
Treatment: Test	644	44.27	0.069	0.25	1
Treatment: Test vs. Check	1	0.002008	0.002008	0.0074	0.93
Block (eliminating Treatments)	11	2.80	0.25	0.94	0.51
Residuals	166	45.08	0.27		