

Addendum 4: Frequency tables and Chi-Square results

INRA 212	Genotype	Polled	Frequency	Horned	Frequency	Difference
	15/18	16	5.05	0	0.00	5.05
	15/21	24	7.57	1	0.32	7.26
	15/22	3	0.95	0	0.00	0.95
	15/23	3	0.95	1	0.32	0.63
	15/25	1	0.32	0	0.00	0.32
	15/29	1	0.32	0	0.00	0.32
	18/18	11	3.47	20	6.31	-2.84
	18/21	45	14.20	31	9.78	4.42
	18/22	5	1.58	12	3.79	-2.21
	18/23	0	0.00	1	0.32	-0.32
	18/24	0	0.00	1	0.32	-0.32
	18/25	0	0.00	1	0.32	-0.32
	18/29	1	0.32	5	1.58	-1.26
	20/21	2	0.63	0	0.00	0.63
	21/21	64	20.19	8	2.52	17.67
	21/22	20	6.31	7	2.21	4.10
	21/23	5	1.58	1	0.32	1.26
	21/24	4	1.26	1	0.32	0.95
	21/25	2	0.63	3	0.95	-0.32
	21/29	5	1.58	6	1.89	-0.32
	22/24	1	0.32	0	0.00	0.32
	22/29	1	0.32	1	0.32	0.00
	23/25	0	0.00	1	0.32	-0.32

SOD1 MICRO2	Genotype	Polled	Frequency	Horned	Frequency	Difference
	25/25	40	16.19	26	10.53	5.67
	25/28	19	7.69	14	5.67	2.02
	25/29	4	1.62	0	0.00	1.62
	25/30	1	0.40	0	0.00	0.40
	25/39	4	1.62	2	0.81	0.81
	28/28	22	8.91	16	6.48	2.43
	28/29	2	0.81	3	1.21	-0.40
	25/31	18	7.29	5	2.02	5.26
	28/31	9	3.64	4	1.62	2.02
	29/31	2	0.81	2	0.81	0.00
	30/31	1	0.40	0	0.00	0.40
	31/31	11	4.45	2	0.81	3.64
	31/39	3	1.21	0	0.00	1.21
	28/39	0	0.00	1	0.40	-0.40
	28/39	2	0.81	1	0.40	0.40
	29/29	1	0.40	3	1.21	-0.81

90F5-24	Genotype	Polled	Frequency	Horned	Frequency	Difference
	15/15	1	0.33	0	0.00	0.33
	15/17	1	0.33	0	0.00	0.33
	15/18	9	3.01	1	0.33	2.68
	15/20	28	9.36	2	0.67	8.70
	15/22	2	0.67	0	0.00	0.67
	17/18	0	0.00	1	0.33	-0.33
	18/18	15	5.02	25	8.36	-3.34
	18/20	28	9.36	24	8.03	1.34
	18/21	2	0.67	6	2.01	-1.34
	18/22	4	1.34	7	2.34	-1.00
	18/24	1	0.33	0	0.00	0.33
	20/20	80	26.76	37	12.37	14.38
	20/22	7	2.34	8	2.68	-0.33
	20/24	1	0.33	0	0.00	0.33
	21/20	2	0.67	0	0.00	0.67
	21/22	0	0.00	1	0.33	-0.33
	22/20	1	0.33	2	0.67	-0.33
	22/22	3	1.00	0	0.00	1.00

BMS1928	Genotype	Polled	Frequency	Horned	Frequency	Difference
	20/20	1	0.33	1	0.33	0.00
	20/21	14	4.65	6	1.99	2.66
	20/22	4	1.33	3	1.00	0.33
	20/23	2	0.66	0	0.00	0.66
	21/21	5	1.66	33	10.96	-9.30
	21/22	25	8.31	20	6.64	1.66
	21/23	5	1.66	6	1.99	-0.33
	21/24	0	0.00	1	0.33	-0.33
	21/25	3	1.00	1	0.33	0.66
	21/32	0	0.00	2	0.66	-0.66
	21/33	0	0.00	1	0.33	-0.33
	21/34	2	0.66	0	0.00	0.66
	22/22	44	14.62	12	3.99	10.63
	22/23	19	6.31	16	5.32	1.00
	22/24	5	1.66	2	0.66	1.00
	22/25	1	0.33	0	0.00	0.33
	22/27	3	1.00	1	0.33	0.66
	22/32	2	0.66	3	1.00	-0.33
	23/32	3	1.00	0	0.00	1.00
	22/30	15	4.98	1	0.33	4.65
	23/30	7	2.33	1	0.33	1.99
	24/30	1	0.33	0	0.00	0.33
	30/30	1	0.33	0	0.00	0.33
	30/31	2	0.66	0	0.00	0.66
	30/32	1	0.33	0	0.00	0.33
	30/34	2	0.66	0	0.00	0.66
	20/26	3	1.00	0	0.00	1.00
	21/26	8	2.66	0	0.00	2.66
	22/26	9	2.99	1	0.33	2.66
	23/26	2	0.66	0	0.00	0.66
	26/32	1	0.33	0	0.00	0.33

BMS8139	Genotype	Polled	Frequency	Horned	Frequency	Difference
	24/29	1	0.42	0	0.00	0.42
	25/25	1	0.42	0	0.00	0.42
	25/26	1	0.42	0	0.00	0.42
	25/28	1	0.42	1	0.42	0.00
	25/28	1	0.42	0	0.00	0.42
	26/26	67	28.39	17	7.20	21.19
	26/27	15	6.36	12	5.08	1.27
	26/29	20	8.47	15	6.36	2.12
	26/30	1	0.42	0	0.00	0.42
	26/31	1	0.42	0	0.00	0.42
	26/32	1	0.42	0	0.00	0.42
	26/35	1	0.42	0	0.00	0.42
	26/36	4	1.69	0	0.00	1.69
	26/36	5	2.12	3	1.27	0.85
	27/27	5	2.12	6	2.54	-0.42
	27/29	2	0.85	5	2.12	-1.27
	27/35	5	2.12	0	0.00	2.12
	29/29	4	1.69	10	4.24	-2.54
	29/32	1	0.42	0	0.00	0.42
	29/35	1	0.42	0	0.00	0.42
	29/36	3	1.27	9	3.81	-2.54
	30/35	1	0.42	0	0.00	0.42
	31/35	1	0.42	0	0.00	0.42
	32/32	0	0.00	1	0.42	-0.42
	32/36	1	0.42	0	0.00	0.42
	35/35	3	1.27	0	0.00	1.27
	35/36	4	1.69	0	0.00	1.69
	36/36	1	0.42	2	0.85	-0.42
	33/26	1	0.42	0	0.00	0.42
	33/27	1	0.42	0	0.00	0.42
	37/32	1	0.42	0	0.00	0.42

Dik70	Genotype	Polled	Frequency	Horned	Frequency	Difference
	20/24	1	0.33	0	0.00	0.33
	22/22	1	0.33	1	0.33	0.00
	22/24	1	0.33	1	0.33	0.00
	22/23	1	0.33	1	0.33	0.00
	22/27	0	0.00	1	0.33	-0.33
	23/23	40	13.16	4	1.32	11.84
	23/24	35	11.51	9	2.96	8.55
	23/25	30	9.87	11	3.62	6.25
	23/26	1	0.33	2	0.66	-0.33
	23/27	24	7.89	13	4.28	3.62
	24/24	15	4.93	8	2.63	2.30
	24/25	25	8.22	8	2.63	5.59
	24/27	13	4.28	9	2.96	1.32
	25/25	15	4.93	5	1.64	3.29
	25/26	1	0.33	0	0.00	0.33
	25/27	12	3.95	11	3.62	0.33
	27/27	2	0.66	1	0.33	0.33
	27/30	1	0.33	0	0.00	0.33
	27/31	0	0.00	1	0.33	-0.33

BMS574	Genotype	Polled	Frequency	Horned	Frequency	Difference
	16/19	2	0.67	0	0.00	0.67
	16/23	1	0.33	0	0.00	0.33
	16/24	0	0.00	1	0.33	-0.33
	18/22	1	0.33	0	0.00	0.33
	19/19	8	2.67	10	3.33	-0.67
	19/21	23	7.67	20	6.67	1.00
	19/22	4	1.33	5	1.67	-0.33
	19/23	20	6.67	5	1.67	5.00
	19/24	34	11.33	7	2.33	9.00
	21/21	6	2.00	11	3.67	-1.67
	21/23	24	8.00	7	2.33	5.67
	21/24	15	5.00	10	3.33	1.67
	22/22	4	1.33	2	0.67	0.67
	22/23	10	3.33	3	1.00	2.33
	22/24	8	2.67	0	0.00	2.67
	19/23	6	2.00	0	0.00	2.00
	23/23	16	5.33	5	1.67	3.67
	23/24	22	7.33	3	1.00	6.33
	24/24	6	2.00	1	0.33	1.67

Chi-Square results

Results (P/2) are compared to the critical value of 6.63 at a 99% confidence interval. Therefore none of the alleles below show significant results.

Allele24 of INRA257	Observed	M1	M2	Row Total
Transmitted	2	7	9	
Not Transmitted	66	64	130	
Column Total	68	71	139	

Expected	M1	M2	Row Total
Transmitted	4	5	9
Not Transmitted	64	66	130
Column Total	68	71	139

P: 2.75
P/2 1.37

Allele21 of INRA212	Observed	M1	M2	Row Total
		59	40	
		50	47	
		109	87	196

Expected	M1	M2	Row Total
Transmitted	55	44	99
Not Transmitted	54	43	97
Column Total	109	87	196

P: 1.29
P/2 0.64

Allele15 of INRA212	Observed	M1	M2	Total
Transmitted	9	71	80	
Not Transmitted	6	82	88	
Total	15	153	168	

Expected	M1	M2	Total
Transmitted	7	73	80
Not Transmitted	8	80	88
Column Total	15	153	168

P: 1.01
P/2 0.51

Allele31 SOD1Micro2	Observed	M1	M2	Total
	Transmitted	15	35	50
	Not Transmitted	13	37	50
	Total	28	72	100

Expected	M1	M2	Total
Transmitted	14	36	50
Not Transmitted	14	36	50
Column Total	28	72	100

P: 0.20

P/2 0.10

Allele15 of 90F5-24	Observed	M1	M2	Total
	Transmitted	22	12	34
	Not Transmitted	55	60	115
	Total	77	72	149

Expected	M1	M2	Total
Transmitted	18	16	34
Not Transmitted	59	56	115
Column Total	77	72	149

P: 2.99

P/2 1.50