

Table 4. Direction of effects of QTL for crosses between wild and domesticated populations

Kingdom	Species	Cross	Mating system	Trait	Dom. (D)	No. antag. QTLs	Total QTLs	Ratio	P	Ref.
Animal	<i>Apis mellifera</i>	Intra	Outcross	Alarm pheromones		3	9	0.33	0.5078	1
Animal	<i>Apis mellifera</i>	Intra	Outcross	Foraging behavior	D	1	3	0.33		2
Animal	<i>Apis mellifera</i>	Intra	Outcross	Tendency to sting	D	1	5	0.20		3
Animal	<i>Apis mellifera</i>	Intra	Outcross	Drone wing length		0	5	0.00		3
Animal	<i>Apis mellifera</i>	Intra	Outcross	Worker wing length		0	4	0.00		3
Animal	<i>Sus scrofa</i>	Intra	Outcross	Birth weight	D	1	3	0.33		4
Animal	<i>Sus scrofa</i>	Intra	Outcross	Growth rate to 30 kg	D	0	2	0.00		4
Animal	<i>Sus scrofa</i>	Intra	Outcross	Growth rate to 70 kg	D	1	3	0.33		4
Animal	<i>Sus scrofa</i>	Intra	Outcross	Growth rate 30-70 kg	D	1	3	0.33		4
Animal	<i>Sus scrofa</i>	Intra	Outcross	Length small intestine		2	9	0.22	0.1797	4
Animal	<i>Sus scrofa</i>	Intra	Outcross	Abdominal fat	D	2	7	0.29	0.4531	4
Animal	<i>Sus scrofa</i>	Intra	Outcross	Average depth back fat	D	1	7	0.14	0.1250	4
Animal	<i>Sus scrofa</i>	Intra	Outcross	Femur measurements PC1		0	2	0.00		5
Animal	<i>Sus scrofa</i>	Intra	Outcross	Femur measurements PC2		0	2	0.00		5
Animal	<i>Sus scrofa</i>	Intra	Outcross	Osteochondrosis		0	2	0.00		5
Animal	<i>Sus scrofa</i>	Intra	Outcross	Osteochondrosis		1	2	0.50		5
Plant	<i>Glycine max x G. soja</i>	Inter	Self	Pod dehiscence	D	2	5	0.40		6
Plant	<i>Gossypium hirsutum x G. barbadense</i>	Inter	Outcross	Leaf morphology - a2		3	7	0.43	1.0000	7
Plant	<i>Gossypium hirsutum x G. barbadense</i>	Inter	Outcross	Leaf morphology - a3		2	5	0.40		7
Plant	<i>Gossypium hirsutum x G. barbadense</i>	Inter	Outcross	Leaf morphology - l1		3	6	0.50	1.0000	7
Plant	<i>Gossypium hirsutum x G. barbadense</i>	Inter	Outcross	Leaf morphology - l2		2	7	0.29	0.4531	7
Plant	<i>Gossypium hirsutum x G. barbadense</i>	Inter	Outcross	Leaf morphology - l3		2	6	0.33	0.5238	7
Plant	<i>Gossypium hirsutum x G. barbadense</i>	Inter	Outcross	Leaf morphology - s11		0	1	0.00		7
Plant	<i>Gossypium hirsutum x G. barbadense</i>	Inter	Outcross	Leaf morphology - w1		2	4	0.50		7
Plant	<i>Gossypium hirsutum x G. barbadense</i>	Inter	Outcross	Leaf morphology - w2		4	8	0.50	1.0000	7
Plant	<i>Gossypium hirsutum x G. barbadense</i>	Inter	Outcross	Leaf morphology - w3		2	7	0.29	0.4531	7
Plant	<i>Gossypium hirsutum x G. barbadense</i>	Inter	Outcross	Leaf morphology - hair		0	1	0.00		7
Plant	<i>Helianthus annuus</i>	Intra	Outcross x self	Days to flower		5	10	0.50	1.0000	8
Plant	<i>Helianthus annuus</i>	Intra	Outcross x self	Stem diameter		2	6	0.33	0.5238	8
Plant	<i>Helianthus annuus</i>	Intra	Outcross x self	Height		2	6	0.33	0.5238	8
Plant	<i>Helianthus annuus</i>	Intra	Outcross x self	No. of main stem leaves		2	5	0.40		8
Plant	<i>Helianthus annuus</i>	Intra	Outcross x self	Leaf shape		0	2	0.00		8
Plant	<i>Helianthus annuus</i>	Intra	Outcross x self	Leaf size		2	4	0.50		8
Plant	<i>Helianthus annuus</i>	Intra	Outcross x self	Peduncle length		0	3	0.00		8
Plant	<i>Helianthus annuus</i>	Intra	Outcross x self	No. of branches		1	3	0.33		8
Plant	<i>Helianthus annuus</i>	Intra	Outcross x self	No. of heads		2	5	0.40		8

Kingdom	Species	Cross	Mating system	Trait	Dom. (D)	No. antag. QTLs	Total QTLs	Ratio	P	Ref.
Plant	<i>Helianthus annuus</i>	Intra	Outcross x self	No. of heads/branch		1	5	0.20		8
Plant	<i>Helianthus annuus</i>	Intra	Outcross x self	Disk diameter		1	3	0.33		8
Plant	<i>Helianthus annuus</i>	Intra	Outcross x self	No. of ray flowers		2	5	0.40		8
Plant	<i>Helianthus annuus</i>	Intra	Outcross x self	Ray size		1	3	0.33		8
Plant	<i>Helianthus annuus</i>	Intra	Outcross x self	No. of selfed seeds		0	2	0.00		8
Plant	<i>Helianthus annuus</i>	Intra	Outcross x self	Achene weight	D	1	7	0.14	0.1250	8
Plant	<i>Helianthus annuus</i>	Intra	Outcross x self	Achene width	D	1	5	0.20		8
Plant	<i>Helianthus annuus</i>	Intra	Outcross x self	Achene length	D	0	2	0.00		8
Plant	<i>Helianthus annuus</i>	Intra	Outcross x self	Shattering	D	0	2	0.00		8
Plant	<i>Helianthus annuus x H. debilis</i>	Inter	Outcross x self	Days to first flower		0	3	0.00		9
Plant	<i>Helianthus annuus x H. debilis</i>	Inter	Outcross x self	Tooth height		0	3	0.00		9
Plant	<i>Helianthus annuus x H. debilis</i>	Inter	Outcross x self	Head number		0	2	0.00		9
Plant	<i>Helianthus annuus x H. debilis</i>	Inter	Outcross x self	Ray number		1	4	0.25		9
Plant	<i>Helianthus annuus x H. debilis</i>	Inter	Outcross x self	Ligule length		1	3	0.33		9
Plant	<i>Helianthus annuus x H. debilis</i>	Inter	Outcross x self	Ligule width		1	3	0.33		9
Plant	<i>Helianthus annuus x H. debilis</i>	Inter	Outcross x self	Ligule shape		1	5	0.20		9
Plant	<i>Helianthus annuus x H. debilis</i>	Inter	Outcross x self	Disk diameter		0	3	0.00		9
Plant	<i>Helianthus annuus x H. debilis</i>	Inter	Outcross x self	Phyllary length		1	3	0.33		9
Plant	<i>Helianthus annuus x H. debilis</i>	Inter	Outcross x self	Phyllary width		0	5	0.00		9
Plant	<i>Helianthus annuus x H. debilis</i>	Inter	Outcross x self	Phyllary shape		1	4	0.25		9
Plant	<i>Helianthus annuus x H. debilis</i>	Inter	Outcross x self	Phyllary pubescence		0	4	0.00		9
Plant	<i>Helianthus annuus x H. debilis</i>	Inter	Outcross x self	Achene length	D	0	4	0.00		9
Plant	<i>Helianthus annuus x H. debilis</i>	Inter	Outcross x self	Achene width	D	1	4	0.25		9
Plant	<i>Helianthus annuus x H. debilis</i>	Inter	Outcross x self	Achene shape		3	6	0.50	1.0000	9
Plant	<i>Helianthus annuus x H. debilis</i>	Inter	Outcross x self	Pollen viability		0	2	0.00		9
Plant	<i>Lactuca sativa x L. serriola</i>	Inter	Outcross x self	Primary root traits - greenhouse		0	2	0.00		10
Plant	<i>Lactuca sativa x L. serriola</i>	Inter	Outcross x self	Secondary root traits - greenhouse		0	5	0.00		10
Plant	<i>Lactuca sativa x L. serriola</i>	Inter	Outcross x self	Primary root traits - field		0	2	0.00		10
Plant	<i>Lactuca sativa x L. serriola</i>	Inter	Outcross x self	Secondary root traits - field		0	3	0.00		10
Plant	<i>Lactuca sativa x L. serriola</i>	Inter	Outcross x self	Shoot biomass	D	0	1	0.00		10
Plant	<i>Lycopersicon esculentum x L. cheesmanii</i>	Inter	Outcross x self	Fruit weight	D	0	6	0.00	0.0238	11
Plant	<i>Lycopersicon esculentum x L. cheesmanii</i>	Inter	Outcross x self	Soluble solids	D	0	13	0.00	0.0002	11
Plant	<i>Lycopersicon esculentum x L. cheesmanii</i>	Inter	Outcross x self	Seed weight		1	14	0.07	0.0015	11
Plant	<i>Lycopersicon esculentum x L. cheesmanii</i>	Inter	Outcross x self	Plant height		1	7	0.14	0.1250	12
Plant	<i>Lycopersicon esculentum x L. cheesmanii</i>	Inter	Outcross x self	No. of nodes		0	6	0.00	0.0238	12
Plant	<i>Lycopersicon esculentum x L. cheesmanii</i>	Inter	Outcross x self	Flower node number		2	6	0.33	0.5238	12
Plant	<i>Lycopersicon esculentum x L. cheesmanii</i>	Inter	Outcross x self	No. of branches		2	7	0.29	0.4531	12
Plant	<i>Lycopersicon esculentum x L. cheesmanii</i>	Inter	Outcross x self	Leaf length		2	6	0.33	0.5238	12
Plant	<i>Lycopersicon esculentum x L. cheesmanii</i>	Inter	Outcross x self	Plant fresh mass		0	7	0.00	0.0156	12
Plant	<i>Lycopersicon esculentum x L. cheesmanii</i>	Inter	Outcross x self	Fruit mass - F ₂	D	0	7	0.00	0.0156	13
Plant	<i>Lycopersicon esculentum x L. cheesmanii</i>	Inter	Outcross x self	Fruit mass - CA	D	0	9	0.00	0.0039	13
Plant	<i>Lycopersicon esculentum x L. cheesmanii</i>	Inter	Outcross x self	Fruit diameter - IS	D	1	4	0.25		13
Plant	<i>Lycopersicon esculentum x L. cheesmanii</i>	Inter	Outcross x self	Soluble solids conc. - F ₂	D	0	4	0.00		13

Kingdom	Species	Cross	Mating system	Trait	Dom. (D)	No. antag.	Total QTLs	Ratio	P	Ref.
Plant	<i>Lycopersicon esculentum</i> x <i>L. cheesmanii</i>	Inter	Outcross x self	Soluble solids conc. - CA	D	0	3	0.00		13
Plant	<i>Lycopersicon esculentum</i> x <i>L. cheesmanii</i>	Inter	Outcross x self	Soluble solids conc. - IS	D	1	5	0.20		13
Plant	<i>Lycopersicon esculentum</i> x <i>L. cheesmanii</i>	Inter	Outcross x self	Fruit pH - F ₂		2	5	0.40		13
Plant	<i>Lycopersicon esculentum</i> x <i>L. cheesmanii</i>	Inter	Outcross x self	Fruit pH - CA		3	8	0.38	0.5706	13
Plant	<i>Lycopersicon esculentum</i> x <i>L. cheesmanii</i>	Inter	Outcross x self	Fruit pH - IS		1	2	0.50		13
Plant	<i>Lycopersicon esculentum</i> x <i>L. chmielewskii</i>	Inter	Outcross x self	Fruit mass	D	0	6	0.00	0.0238	14
Plant	<i>Lycopersicon esculentum</i> x <i>L. chmielewskii</i>	Inter	Outcross x self	Soluble solids conc.	D	0	4	0.00		14
Plant	<i>Lycopersicon esculentum</i> x <i>L. chmielewskii</i>	Inter	Outcross x self	Fruit pH		1	4	0.25		14
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Wilting 6 h-PS		1	3	0.33		15
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Wilting 6 h-GS-ch5		3	7	0.43	1.0000	15
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Wilting 6 h-GS-ch6		2	4	0.50		15
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Wilting 6 h-GS-ch9		1	3	0.33		15
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Unchilled ammonium uptake		0	2	0.00		15
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Inhibition ammonium uptake		0	2	0.00		15
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Stigma exertion		0	1	0.00		16
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Bud morphology		0	7	0.00	0.0156	16
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Flower size		0	3	0.00		16
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Number of flowers		0	1	0.00		16
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Inflorescence vegetative meristem		0	2	0.00		16
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Total yield	D	1	12	0.08	0.0052	17
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Red yield	D	0	12	0.00	0.0004	17
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Soluble solids	D	1	5	0.20		17
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Brix Xx red yield	D	1	9	0.11	0.0391	17
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Fruit color		7	15	0.08	1.0000	17
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Firmness		0	3	0.00		17
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Fruit weight	D	0	3	0.00		17
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	pH		5	10	0.50	1.0000	17
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	% stem reduction		1	6	0.17	0.1667	17
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Cover		3	6	0.50	1.0000	17
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Puffiness		0	2	0.00		17
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Viscosity		0	1	0.00		17
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Fruit shape		1	9	0.11	0.0391	17
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	% green yield	D	0	11	0.00	0.0010	17
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Maturity		0	6	0.00	0.0238	17
Plant	<i>Lycopersicon esculentum</i> x <i>L. hirsutum</i>	Inter	Outcross x self	Horticultural acceptability		2	12	0.17	0.0315	17
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Total yield	D	1	5	0.20		18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Red yield	D	0	4	0.00		18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Fruit weight	D	1	8	0.13	0.0552	18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Viscosity of the serum		0	11	0.00	0.0010	18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Fruit viscosity		0	3	0.00		18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Soluble solids	D	0	5	0.00		18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Brix X red yield	D	0	2	0.00		18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Yellow		0	1	0.00		18

Kingdom	Species	Cross	Mating system	Trait	Dom. (D)	No. antag.	Total QTLs	Ratio	P	Ref.
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Internal fruit color		7	15	0.47	1.0000	18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	External fruit color		4	9	0.44	1.0000	18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Fruit color, lab		0	4	0.00		18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Internal gel color		0	2	0.00		18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Lycopene		2	5	0.40		18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Beta-carotene		1	6	0.17	0.1667	18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Stem scar		4	11	0.36	0.5494	18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Epidermal reticulation		0	4	0.00		18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Shoulders		0	1	0.00		18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Stem release		1	6	0.17	0.1667	18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Fruit shape		6	16	0.38	0.3799	18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Firmness		6	12	0.50	1.0000	18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Total acids		2	4	0.50		18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Total organic acids		0	2	0.00		18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	pH		2	10	0.20	0.0879	18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Maturity		1	6	0.17	0.1667	18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Horticultural acceptability		1	3	0.33		18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Cover		5	18	0.28	0.0593	18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Internal core		1	3	0.33		18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Puffiness		5	13	0.38	0.5811	18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Pericarp thickness		2	7	0.29	0.4531	18
Plant	<i>Lycopersicon esculentum</i> x <i>L. parviflorum</i>	Inter	Outcross x self	Veins		1	2	0.50		18
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Total yield - CA1	D	1	8	0.13	0.0552	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Red yield - CA1	D	1	9	0.11	0.0391	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Fruit weight - CA1	D	2	10	0.20	0.0879	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Green yield - CA1	D	1	4	0.25		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Brix - CA1	D	0	4	0.00		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Viscosity - CA1		0	3	0.00		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Fruit color, lab - CA1		1	7	0.14	0.1250	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Fruit color, external - CA1		1	3	0.33		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Fruit color, Internal - CA1		0	1	0.00		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Fruit shape - CA1		1	10	0.10	0.0173	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Firmness - CA1		1	3	0.33		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	First ripe - CA1		1	3	0.33		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Stem release - CA1		0	3	0.00		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Cover - CA1		1	7	0.14	0.1250	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Growth - CA1		1	6	0.17	0.1667	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Hortic.accept. - CA1		1	7	0.14	0.1250	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	pH		1	5	0.20		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Fruit weight - CA2	D	1	6	0.17	0.1667	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Brix - CA2	D	0	8	0.00	0.0061	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Viscosity - CA2		0	3	0.00		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Fruit color, lab - CA2		0	1	0.00		19

Kingdom	Species	Cross	Mating system	Trait	Dom. (D)	No. antag.	Total QTLs	Ratio	P	Ref.
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Fruit color, external – CA2		0	2	0.00		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Fruit shape – CA2		2	11	0.18	0.0654	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Firmness – CA2		2	5	0.40		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Cover – CA2		1	7	0.14	0.1250	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Growth – CA2		1	6	0.17	0.1667	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Horticolt accept. – CA2		1	7	0.14	0.1250	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	pH – CA2		1	2	0.50		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Total yield – S	D	1	8	0.13	0.0552	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Red yield – S	D	1	10	0.10	0.0173	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Fruit weight – S	D	2	9	0.22	0.1797	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Small fruit – S	D	0	5	0.00		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Large fruit – S	D	1	3	0.33		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Green yield – S	D	0	4	0.00		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Brix – S	D	0	8	0.00	0.0061	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Brix X red yield – S	D	0	6	0.00	0.0238	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Brix X total yield – S	D	0	8	0.00	0.0061	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Viscosity – S		0	3	0.00		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Fruit color, lab – S		1	8	0.13	0.0552	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Fruit color, external – S		1	3	0.33		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Fruit color, Internal – S		1	2	0.50		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Fruit shape – S		2	12	0.17	0.0315	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Firmness – S		3	6	0.50	1.0000	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	First ripe – S		1	4	0.25		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Maturity – S		1	5	0.20		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Overmaturity – S		0	3	0.00		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Stem release – S		0	2	0.00		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Sunscald – S		1	4	0.25		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Stigma exsertion – S		0	2	0.00		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Puffiness – S		0	1	0.00		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Cover – S		1	5	0.20		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Unhealthy – S		0	2	0.00		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	pH – S		0	2	0.00		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Total yield – I	D	1	9	0.11	0.0391	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Red yield – I	D	2	10	0.20	0.0879	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Fruit weight – I	D	2	10	0.20	0.0879	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Green yield – I	D	0	6	0.00	0.0238	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Brix – I	D	0	4	0.00		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Brix X red yield – I	D	0	8	0.00	0.0061	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Brix X total yield – I	D	0	8	0.00	0.0061	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Fruit color, Internal – I		0	1	0.00		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Fruit shape – I		2	9	0.22	0.1797	19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Stem release – I		2	5	0.40		19
Plant	<i>Lycopersicum esculentum</i> x <i>L. peruvianum</i>	Inter	Outcross x self	Cover – I		0	7	0.00	0.0156	19

Kingdom	Species	Cross	Mating system	Trait	Dom. (D)	No. antag. QTLs	Total QTLs	Ratio	P	Ref.
Plant	<i>Lycopersicum esculentum x L. peruvianum</i>	Inter	Outcross x self	pH – I		1	6	0.17	0.1667	19
Plant	<i>Lycopersicum esculentum x L. peruvianum</i>	Inter	Outcross x self	Gel – I		0	2	0.00		19
Plant	<i>Lycopersicum esculentum x L. peruvianum</i>	Inter	Outcross x self	Fruit weight - CU	D	2	10	0.20	0.0879	19
Plant	<i>Lycopersicum esculentum x L. peruvianum</i>	Inter	Outcross x self	Self seed - CU		1	3	0.33		19
Plant	<i>Lycopersicon esculentum x L. pennellii</i>	Inter	Outcross x self	Acylsucroses		0	4	0.00		20
Plant	<i>Lycopersicon esculentum x L. pennellii</i>	Inter	Outcross x self	Total acylsugars		0	3	0.00		20
Plant	<i>Lycopersicon esculentum x L. pennellii</i>	Inter	Outcross x self	Percent acylglucoses		1	3	0.33		20
Plant	<i>Lycopersicon esculentum x L. pennellii</i>	Inter	Outcross x self	Acylglucoses		0	1	0.00		20
Plant	<i>Lycopersicon esculentum x L. pennellii</i>	Inter	Outcross x self	Days to first true leaf		1	3	0.33		21
Plant	<i>Lycopersicon esculentum x L. pennellii</i>	Inter	Outcross x self	Days to first flower		1	7	0.14	0.1250	21
Plant	<i>Lycopersicon esculentum x L. pennellii</i>	Inter	Outcross x self	Height		4	9	0.44	1.0000	21
Plant	<i>Lycopersicon esculentum x L. pennellii</i>	Inter	Outcross x self	No. of flower buds		4	10	0.40	0.6060	21
Plant	<i>Lycopersicon esculentum x L. pennellii</i>	Inter	Outcross x self	No. of Internodes on primary stem		2	5	0.40		21
Plant	<i>Lycopersicon esculentum x L. pennellii</i>	Inter	Outcross x self	No. of Internodes – total		4	9	0.44	1.0000	21
Plant	<i>Lycopersicon esculentum x L. pennellii</i>	Inter	Outcross x self	No. of branches		3	8	0.38	0.5706	21
Plant	<i>Lycopersicon esculentum x L. pennellii</i>	Inter	Outcross x self	Total fresh weight		1	2	0.50		21
Plant	<i>Lycopersicon esculentum x L. pennellii</i>	Inter	Outcross x self	Total dry weight		1	5	0.20		21
Plant	<i>Lycopersicon esculentum x L. pennellii</i>	Inter	Outcross x self	Stem diameter		3	7	0.43	1.0000	21
Plant	<i>Lycopersicon esculentum x L. pennellii</i>	Inter	Outcross x self	Leaflet width/length		1	9	0.11	0.0391	21
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Soluble solids	D	1	12	0.08	0.0052	22
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Fruit weight	D	1	18	0.06	0.0002	22
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Fruit color		2	5	0.40		22
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Fruit pH		2	5	0.40		22
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Total yield	D	1	6	0.17	0.1667	22
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Red yield	D	0	2	0.00		22
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Brix X red yield	D	1	4	0.25		22
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Fertility		0	2	0.00		22
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Puffiness		1	5	0.20		22
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Viscosity		0	1	0.00		22
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Fruit shape		2	4	0.50		22
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	% stem release		1	4	0.25		22

Kingdom	Species	Cross	Mating system	Trait	Dom. (D)	No. antag. QTLs	Total QTLs	Ratio	P	Ref.
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Firmness		1	4	0.25		22
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Vegetative growth		3	6	0.50	1.0000	22
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Sunscald		1	2	0.50		22
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Time to maturity		3	7	0.43	1.0000	22
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Cover		3	6	0.50	1.0000	22
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Fruit ripening		1	4	0.25		22
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Fruit weight	D	0	6	0.06	0.0238	23
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Fruit length	D	0	7	0.06	0.0156	23
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Fruit diameter	D	0	7	0.06	0.0156	23
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Fruit shape		0	1	0.06		23
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	No. of seeds/fruit		0	2	0.06		23
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Seed weight		0	4	0.06		23
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Locule number		0	3	0.06		23
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Fruit weight	D	0	7	0.00	0.0156	24
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Fruit color		0	2	0.00		24
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Soluble solids	D	0	3	0.00		24
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Fruit diameter	D	0	3	0.00		24
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Fruit pericarp thickness		0	4	0.00		24
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Fruit shape		0	2	0.00		24
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Locule number		0	2	0.00		24
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	No. of seeds/fruit		1	4	0.25		24
Plant	<i>Lycopersicon esculentum x L. pimpinellifolium</i>	Inter	Outcross x self	Seed weight		2	4	0.50		24

Kingdom	Species	Cross	Mating system	Trait	Dom. (D)	No. antag. QTLs	Total QTLs	Ratio	P	Ref.
Plant	<i>Lycopersicon esculentum</i> x <i>L. pimpinellifolium</i>	Inter	Outcross x self	Anther tube width		0	2	0.00		24
Plant	<i>Lycopersicon esculentum</i> x <i>L. pimpinellifolium</i>	Inter	Outcross x self	Anther tube length		0	2	0.00		24
Plant	<i>Lycopersicon esculentum</i> x <i>L. pimpinellifolium</i>	Inter	Outcross x self	Anther tube shape		1	2	0.50		24
Plant	<i>Lycopersicon esculentum</i> x <i>L. pimpinellifolium</i>	Inter	Outcross x self	No. of flowers		0	3	0.00		24
Plant	<i>Lycopersicon esculentum</i> x <i>L. pimpinellifolium</i>	Inter	Outcross x self	Days to emergence		1	3	0.33		24
Plant	<i>Lycopersicon esculentum</i> x <i>L. pimpinellifolium</i>	Inter	Outcross x self	Days to third leaf		0	3	0.00		24
Plant	<i>Lycopersicon esculentum</i> x <i>L. pimpinellifolium</i>	Inter	Outcross x self	Days to first flower		0	2	0.00		24
Plant	<i>Lycopersicon esculentum</i> x <i>L. pimpinellifolium</i>	Inter	Outcross x self	Days to first fruit		0	2	0.00		24
Plant	<i>Lycopersicon esculentum</i> x <i>L. pimpinellifolium</i>	Inter	Outcross x self	Days to ripening		0	3	0.00		24
Plant	<i>Lycopersicon esculentum</i> x <i>L. pimpinellifolium</i>	Inter	Outcross x self	Plant height		0	1	0.00		24
Plant	<i>Lycopersicon esculentum</i> x <i>L. pimpinellifolium</i>	Inter	Outcross x self	Fruit shape		0	4	0.00		25
Plant	<i>Lycopersicon esculentum</i> x <i>L. pimpinellifolium</i>	Inter	Outcross x self	Pericarp elongation index		0	1	0.00		25
Plant	<i>Lycopersicon esculentum</i> x <i>L. pimpinellifolium</i>	Inter	Outcross x self	Eccentricity index		0	3	0.00		25
Plant	<i>Lycopersicon esculentum</i> x <i>L. pimpinellifolium</i>	Inter	Outcross x self	Salt tolerance		1	7	0.14	0.1250	26
Plant	<i>Lycopersicon esculentum</i> x <i>L. pimpinellifolium</i>	Inter	Outcross x self	Time to germination, nonstress	D	0	5	0.00		27
Plant	<i>Lycopersicon esculentum</i> x <i>L. pimpinellifolium</i>	Inter	Outcross x self	Time to germination, cold stress		2	6	0.33	0.5238	27
Plant	<i>Lycopersicon esculentum</i> x <i>L. pimpinellifolium</i>	Inter	Outcross x self	Time to germination, salt stress		1	7	0.14	0.1250	27
Plant	<i>Lycopersicum pennellii</i>	Intra	Outcross	Trichome density		1	7	0.14	0.1250	28
Plant	<i>Lycopersicum pennellii</i>	Inter	Outcross	Acylsugar level		2	7	0.29	0.4531	28
Plant	<i>Lycopersicum pennellii</i>	Inter	Outcross	Percentage acylglucoses		1	4	0.25		28
Plant	<i>Lycopersicon esculentum</i> x several other species	Inter	Outcross x self	Seed weight		6	14	0.43	0.6536	29
Plant	<i>Oryza japonica</i>	Intra	Self	Stem coloration		0	1	0.00		30
Plant	<i>Oryza japonica</i>	Intra	Self	Pericarp coloration		0	2	0.00		30
Plant	<i>Oryza japonica</i>	Intra	Self	Plant type		1	2	0.50		30
Plant	<i>Oryza japonica</i>	Intra	Self	Awning		0	2	0.00		30
Plant	<i>Oryza japonica</i>	Intra	Self	Shattering	D	0	1	0.00		30

Kingdom	Species	Cross	Mating system	Trait	Dom. (D)	No. antag. QTLs	Total QTLs	Ratio	P	Ref.
Plant	<i>Oryza japonica</i>	Intra	Self	Plant height		1	2	0.50		30
Plant	<i>Oryza japonica</i>	Intra	Self	Heading date		1	3	0.33		30
Plant	<i>Oryza japonica</i>	Intra	Self	Tiller number		0	2	0.00		30
Plant	<i>Oryza japonica</i>	Intra	Self	Leaf width		0	1	0.00		30
Plant	<i>Oryza japonica</i>	Intra	Self	Panicle length		0	1	0.00		30
Plant	<i>Oryza japonica</i>	Intra	Self	Spikelets/panicle		0	1	0.00		30
Plant	<i>Oryza japonica</i>	Intra	Self	Primary branches/panicle		1	2	0.50		30
Plant	<i>Oryza japonica</i>	Intra	Self	Secondary branches/panicle		1	2	0.50		30
Plant	<i>Oryza japonica</i>	Intra	Self	Grain length	D	1	2	0.50		30
Plant	<i>Oryza japonica</i>	Intra	Self	Grain width	D	0	1	0.00		30
Plant	<i>Oryza japonica</i>	Intra	Self	Grain pilosity		0	1	0.00		30
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Regeneration ability		1	4	0.25		31
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Plant height		1	4	0.25		31
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Tillers/Plant		0	2	0.00		31
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Anther length		1	7	0.14	0.1250	31
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Panicle length		0	2	0.00		31
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Culm circumference		2	5	0.40		31
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Panicle neck length		1	4	0.25		31
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Secondary branches/panicle		1	2	0.50		31
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Shattering	D	1	5	0.20		31
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Spikelets/panicle		1	3	0.33		31
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Spikelet density		1	2	0.50		31
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Heading date		2	4	0.50		31
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Days to heading		2	7	0.29	0.4531	32
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Days to maturity		2	8	0.25	0.2270	32
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Plant height		0	6	0.00	0.0238	32
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Panicle length		0	7	0.00	0.0156	32
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Panicles/plant		0	2	0.00		32
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Spikelets/panicle		1	4	0.25		32
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Spikelets/plant		0	1	0.00		32
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Grains/panicle	D	2	5	0.40		32
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Grains/plant	D	3	6	0.50	1.0000	32
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	% seed set		2	7	0.29	0.4531	32
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	1.000 grain weight	D	3	8	0.38	0.5706	32
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Grain yield	D	3	7	0.43	1.0000	32
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Days to heading		1	4	0.25		33
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Plant height		1	8	0.13	0.0552	33
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Panicles/plant		0	1	0.00		33
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Percentage of sterility		0	2	0.00		33
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Grains/Plant	D	0	4	0.00		33
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	100 grain weight	D	0	5	0.00		33
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	yield/Plant	D	0	2	0.00		33
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Seed shattering	D	0	4	0.00		34

Kingdom	Species	Cross	Mating system	Trait	Dom. (D)	No. antag. QTLs	Total QTLs	Ratio	P	Ref.
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Seed dormancy, intact, 30 days after heading (DAH)	D	0	12	0.00	0.0004	34
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Seed dormancy, dehulled, 30 DAH	D	0	2	0.00		34
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Seed dormancy, intact, 60 DAH	D	0	6	0.00	0.0238	34
Plant	<i>Oryza sativa x O. rufipogon</i>	Inter	Outcross x self	Seed dormancy, dehulled, 60 DAH	D	0	5	0.00		34
Plant	<i>Pennisetum glaucum</i>	Intra	Outcross x self	Plant height		1	2	0.50		35
Plant	<i>Pennisetum glaucum</i>	Intra	Outcross x self	Height of the primary tiller		0	2	0.00		35
Plant	<i>Pennisetum glaucum</i>	Intra	Outcross x self	No. of nodes on the primary tiller		1	2	0.50		35
Plant	<i>Pennisetum glaucum</i>	Intra	Outcross x self	Total no. of spikes/plant		1	4	0.25		35
Plant	<i>Pennisetum glaucum</i>	Intra	Outcross x self	No. of basal tillers		0	3	0.00		35
Plant	<i>Pennisetum glaucum</i>	Intra	Outcross x self	Width of the 4th leaf at maturity		0	4	0.00		35
Plant	<i>Pennisetum glaucum</i>	Intra	Outcross x self	Plant height at first heading date		0	2	0.00		35
Plant	<i>Pennisetum glaucum</i>	Intra	Outcross x self	Days to heading		1	2	0.50		35
Plant	<i>Pennisetum glaucum</i>	Intra	Outcross x self	Beginning female flowering (BFF)		2	4	0.50		35
Plant	<i>Pennisetum glaucum</i>	Intra	Outcross x self	DAH - days to heading		0	2	0.00		35
Plant	<i>Pennisetum glaucum</i>	Intra	Outcross x self	Weight of the spike	D	0	3	0.00		35
Plant	<i>Pennisetum glaucum</i>	Intra	Outcross x self	Length of the spike	D	1	3	0.33		35
Plant	<i>Pennisetum glaucum</i>	Intra	Outcross x self	Width of the spike	D	1	2	0.50		35
Plant	<i>Pennisetum glaucum</i>	Intra	Outcross x self	Pedicel length		1	2	0.50		35
Plant	<i>Pennisetum glaucum</i>	Intra	Outcross x self	Length of the involucre bristles		1	2	0.50		35
Plant	<i>Pennisetum glaucum</i>	Intra	Outcross x self	Length of the upper floret lemma		1	3	0.33		35
Plant	<i>Solanum tuberosum x S. berthaultii</i>	Inter	Outcross x self	Tuber dormancy	D	0	5	0.00		36
Plant	<i>Solanum tuberosum</i>	Intra	Outcross x self	Tuber dormancy	D	2	4	0.50		36
Plant	<i>Solanum tuberosum x S. berthaultii</i>	Inter	Outcross x self	Tuber dormancy	D	0	5	0.00	0.1250	36
Plant	<i>Solanum tuberosum x S. berthau</i>	Inter	Outcross x self	Tuberization	D	3	11	0.27	0.2268	37
Plant	<i>Solanum tuberosum</i>	Intra	Outcross x self	Tuberization	D	4	10	0.40	0.6060	37
Plant	<i>Solanum tuberosum x S. berthau</i>	Inter	Outcross x self	Tuber ABA content		1	3	0.33		38
Plant	<i>Solanum tuberosum x S. berthau</i>	Inter	Outcross x self	Solasodine content		1	3	0.33		39
Plant	<i>Solanum tuberosum x S. berthau</i>	Inter	Outcross x self	Solanidine content		0	2	0.00		39
Plant	<i>Sorgum bicolor x S. propinquum</i>	Inter	Self	Aboveground rhizome number		0	4	0.00		40
Plant	<i>Sorgum bicolor x S. propinquum</i>	Inter	Self	Subterranean rhizomatousness		2	10	0.20	0.0879	40
Plant	<i>Sorgum bicolor x S. propinquum</i>	Inter	Self	Rhizome growth		0	1	0.00		40
Plant	<i>Sorgum bicolor x S. propinquum</i>	Inter	Self	Seedling tillers		0	4	0.00		40
Plant	<i>Sorgum bicolor x S. propinquum</i>	Inter	Self	Regrowth		1	7	0.14	0.1250	40
Plant	<i>Triticum durum</i>	Intra	Self	Protein content – env. 1	D	0	9	0.00	0.0039	41
Plant	<i>Triticum durum</i>	Intra	Self	Protein content – env. 2	D	0	13	0.00	0.0002	41
Plant	<i>Triticum durum</i>	Intra	Self	Protein content – env. 3	D	0	11	0.00	0.0010	41
Plant	<i>Triticum durum</i>	Intra	Self	Grain yield/Plant – env. 1	D	0	1	0.00		41
Plant	<i>Triticum durum</i>	Intra	Self	Grain yield/Plant – env. 2	D	0	7	0.00	0.0156	41
Plant	<i>Triticum durum</i>	Intra	Self	Grain yield/Plant – env. 3	D	0	8	0.00	0.0061	41
Plant	<i>Triticum durum</i>	Intra	Self	Low grain weight – env. 1	D	0	3	0.00		41
Plant	<i>Triticum durum</i>	Intra	Self	Low grain weight – env. 2	D	0	7	0.00	0.0156	41
Plant	<i>Triticum durum</i>	Intra	Self	Low grain weight – env. 3	D	0	7	0.00	0.0156	41

Kingdom	Species	Cross	Mating system	Trait	Dom. (D)	No. antag. QTLs	Total QTLs	Ratio	P	Ref.
Plant	<i>Zea mays</i>	Intra	Outcross x self	Cupules/rank	D	0	5	0.00		42
Plant	<i>Zea mays</i>	Intra	Outcross x self	Disarticulation (shattering)	D	0	4	0.00		42
Plant	<i>Zea mays</i>	Intra	Outcross x self	Glume hardness	D	0	5	0.00		42
Plant	<i>Zea mays</i>	Intra	Outcross x self	Internode length on primary lateral branch		1	5	0.20		42
Plant	<i>Zea mays</i>	Intra	Outcross x self	Leaf length		0	5	0.00		42
Plant	<i>Zea mays</i>	Intra	Outcross x self	Branch number in primary lateral inflorescence		2	5	0.40		42
Plant	<i>Zea mays</i>	Intra	Outcross x self	Plant height		1	6	0.17	0.1667	42
Plant	<i>Zea mays</i>	Intra	Outcross x self	% cupules lacking pedicellate spikelet		3	6	0.50	1.0000	42
Plant	<i>Zea mays</i>	Intra	Outcross x self	No. of ears on lateral branch		1	3	0.33		42
Plant	<i>Zea mays</i>	Intra	Outcross x self	No. of rows of cupules	D	0	6	0.00	0.0238	42
Plant	<i>Zea mays</i>	Intra	Outcross x self	% male spikelets/ inflorescence		1	5	0.20		42
Plant	<i>Zea mays</i>	Intra	Outcross x self	No. of tillers		0	1	0.00		42

Studies and/or traits are categorized by kingdom, cross type, mating system, and whether or not the trait difference results from domestication. The number of antagonistic QTLs, the total number of QTLs detected, the proportion of QTLs with antagonistic or opposing effects are given for each trait. For those traits with greater than six detected QTLs, the probability that the observed ratio results from neutral divergence is also provided.

- Hunt, G. J., Collins A. M., Rivera R., Page R. E. & Guzman-Novoa, E. (1999) *J. Hered.* **90**, 585-589.
- Page, R. E., Fondrk, M. K., Hunt, G. J., Guzman-Novoa, E., Humphries, M. A., Nguyen, K. & Greene, A. S. (2000) *J. Hered.* **91**, 474-479.
- Hunt, G. J., Guzman-Novoa, E., Fondrk, M. K. & Page, R. E. (1998) *Genetics* **148**, 1203-1213.
- Knott, S. A., Marklund, L., Haley, C. S., Andersson, K., Davies, W., Ellegren, H., Fredholm, M., Hansson, I., Hoyheim, B., Lundstrom, K., Moller, M. & Andersson, L. (1998) *Genetics* **149**, 1069-1080.
- Andersson-Eklund, L., Uhlhorn, H., Lundeheim, N., Dalin, G. & Andersson, L. (2000) *Gene Res.* **75**, 223-230.
- Bailey, M. A., Mian, M. A. R., Carter, T. E., Ashley, D. A. & Boerma, H. R. (1997) *J. Hered.* **88**, 152-154.
- Jiang, C., Wright, R. J., Woo, S. S., DelMonte, T. A. & Paterson, A. H. (2000) *Theor. Appl. Genet.* **100**, 409-418.
- Burke, J. M., Tang S., Knapp S. J. & Rieseberg, L. H. (2002) *Genetics* 161:1257-1267.
- Kim, S. C. & Rieseberg, L. H. (1999) *Genetics* **153**, 965-977.
- Johnson, W. C., Jackson, L. E., Ochoa, O., van Wijk, R., Peleman, J., St Clair, D. A. & Michelmore, R.W. (2000) *Theor. Appl. Genet.* **101**, 1066-1073.
- Goldman, I. L., Paran, I. & Zamir, (1995) *D. Theor. Appl. Genet.* **90**, 925-932.
- Paran, I., Goldman, I. & Zamir, D. (1997) *Genome* **40**, 242-248.
- Paterson, A. H., Damon, S., Hewitt, J. D., Zamir, D., Rabinowitch, H. D., Lincoln, S. E., Lander, E. S. & Tanksley, S. D. (1991) *Genetics* **127**, 181-197.
- Paterson, A. H., Lander, E. S., Hewitt, J. D., Peterson, S., Lincoln, S. E. & Tanksley, S. D. (1988) *Nature (London)* **335**, 721-726.
- Truco, M. J., Randall, L. B., Bloom, A. J. & St. Clair, D. A. (2000) *Theor. Appl. Genet.* **101**, 1082-1092.
- Bernacchi, D. & Tanksley, S. D. (1997) *Genetics* **147**, 861-877.
- Bernacchi, D., Beck-Bunn, T., Eshed, Y., Lopez, J., Petiard, V., Uhlig, J., Zamir, D. & Tanksley, S. (1998) *Theor. Appl. Genet.* **97**, 381-397.
- Fulton, T. M., Grandillo, S., Beck-Bunn, T., Fridman, E., Frampton, A., Lopez, J., Petiard, V., Uhlig, J., Zamir, D. & Tanksley, S. D. (2000) *Theor. Appl. Genet.* **100**, 1025-1042.
- Fulton, T. M., Beck-Bunn, T., Emmatty, D., Eshed, Y., Lopez, J., Petiard, V., Uhlig, J., Zamir, D. & Tanksley, S. D. (1997) *Theor. Appl. Genet.* **95**, 881-894.
- Mutschler, M. A., Doerge, R. W., Liu, S. C., Kuai, J. P., Liedl, B. E. & Shapiro, J. A. (1996) *Theor. Appl. Genet.* **92**, 709-718.
- de Vicente, M. C. & Tanksley, S. D. (1993) *Genetics* **134**, 585-596.
- Tanksley, S. D., Grandillo, S., Fulton, T. M., Zamir, D., Eshed, Y., Petiard, V., Lopez, J. & Beckbunn, T. (1996) *Theor. Appl. Genet.* **92**, 213-224.
- Lippman, Z. & Tanksley, S. D. (2001) *Genetics* **158**, 413-422.
- Grandillo, S. & Tanksley, S. D. (1996) *Theor. Appl. Genet.* **92**, 935-951.
- van der Knaap, Z., Lippman, B. & Tanksley, S. D. (2002) *Theor. Appl. Genet.* **104**, 241-247.

26. Foolad, M. R., Chen, F. Q. & Lin, G. Y. (1998) *Theor. Appl. Genet.* **97**, 1133-1144.
27. Foolad, M. R. Lin, G. Y. & Chen, F. Q. (1999) *Plant Breed.* **118**, 167-173.
28. Blauth, S. L., Churchill, G. A. & Mutschler, M. A. (1998) *Theor. Appl. Genet.* **96**, 458-467.
29. Doganlar S., Frary, A. & Tanksley, S. D. (2000) *Theor. Appl. Genet.* **100**, 1267-1273.
30. Bres-Patry, C., Lorieux, M., Clement, G., Bangzatz, M. & Ghesquiere, A. (2001) *Theor. Appl. Genet.* **102**, 118-126.
31. Xiong, L. Z., Liu, K. D., Dai, X. K., Xu, C. G. & Zhang, Q. (1999) *Theor. Appl. Genet.* **98**, 243-251.
32. Xiao, J., Jiming, L., Grandillo, S., Ahn, S. N., Yuan, L., Tanksley, S. D. & McCouch, S. R. (1998) *Genetics* **150**, 899-909.
33. Moncada P., Martinez, C. P., Borrero, J., Chatel, M., Gauch, H., Guimaraes, E., Tohme, J. & McCouch, S. R. (2001) *Theor. Appl. Genet.* **102**, 41-52.
34. Cai, H. W. & Morishima, H. (2000) *Theor. Appl. Genet.* **100**, 840-846.
35. Poncet, V., Lamy, F., Devos, K. M., Gale, M. D., Sarr, A. & Robert, T. (2000) *Theor. Appl. Genet.* **100**, 147-159.
36. vandenBerg, J. H., Ewing, E. E., Plaisted, R. L., McMurry, S. & Bonierbale, M. W. (1996) *Theor. Appl. Genet.* **93**, 317-324.
37. vandenBerg, J. H., Ewing, E. E., Plaisted, R. L., McMurry, S. & Bonierbale, M. W. (1996) *Theor. Appl. Genet.* **93**, 307-316.
38. Simko, I., McMurry, S., Yang, H. M., Manschot, A., Davies, P. J. & Ewing, E. E. (1997) *Plant Physiol.* **115**, 1453-1459.
39. Yencho, G. C., Kowalski, S. P., Kobayashi, R. S., Sinden, S. L., Bonierbale, M. W. & Deahl, K. L. (1998) *Theor. Appl. Genet.* **97**, 563-574.
40. Paterson, A. H., Schertz, K. F., Lin, Y. R., Liu, S. C. & Chang, Y. L. (1995) *Proc. Natl. Acad. Sci. USA* **92**, 6127-6131.
41. Blanco, A., deGiovanni, C., Laddomada, B., Sciancalepore, A., Simeone, R., Devos, K. M. & Gale, M. D. (1996) *Plant Breed.* **115**, 310-316.
42. Doebley, J. & Stec, A. (1991) *Genetics* **129**, 285-295.

Table 5. Direction of effects of QTL for crosses involving natural populations of animals and plants

Kingdom	Species	Cross	Mating system	Trait	Trait type	Timing (T)	No. antag. QTLs	Total QTLs	Ratio	P	Ref.
Animal	<i>Acyrtosiphon pisum pisum</i>	Intra	Outcross	Alfalfa race - fecundity on alfalfa	Life history		0	4	0.00		1
Animal	<i>Acyrtosiphon pisum pisum</i>	Intra	Outcross	Alfalfa race - fecundity on clover	Life history		0	4	0.00		1
Animal	<i>Acyrtosiphon pisum pisum</i>	Intra	Outcross	Alfalfa race - acceptance of alfalfa	Life history		0	5	0.00		1
Animal	<i>Acyrtosiphon pisum pisum</i>	Intra	Outcross	Clover race - fecundity on alfalfa	Life history		0	1	0.00		1
Animal	<i>Acyrtosiphon pisum pisum</i>	Intra	Outcross	Clover race - fecundity on clover	Life history		0	3	0.00		1
Animal	<i>Acyrtosiphon pisum pisum</i>	Intra	Outcross	Clover race - acceptance of alfalfa	Life history		0	3	0.00		1
Animal	<i>Acyrtosiphon pisum pisum</i>	Intra	Outcross	Clover race - acceptance of clover	Life history		0	1	0.00		1
Animal	<i>Caenorhabditis elegans</i>	Intra	Self	Body length	Morphology		1	2	0.50		2
Animal	<i>Caenorhabditis elegans</i>	Intra	Self	Fertility	Life history		0	3	0.00		2
Animal	<i>Caenorhabditis elegans</i>	Intra	Self	Mean lifespan	Life history	T	0	1	0.00		3
Animal	<i>Caenorhabditis elegans</i>	Intra	Self	Total fertility	Life history		0	2	0.00		3
Animal	<i>Caenorhabditis elegans</i>	Intra	Self	Early fertility fraction	Life history		0	1	0.00		3
Animal	<i>Caenorhabditis elegans</i>	Intra	Self	Population growth	Life history		1	4	0.25		3
Animal	<i>Caenorhabditis elegans</i>	Intra	Self	Time of onset of egg laying	Life history	T	1	3	0.33		3
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Reproductive success	Life history		0	2	0.00		4
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Ovariole number	Life history		0	2	0.00		4
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Cuticular hydrocarbons	Physiology		0	1	0.00		5
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Cuticular hydrocarbons	Physiology		0	1	0.00		5
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Sex comb tooth number	Morphology		1	2	0.50		6
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Lifespan male	Life history	T	2	5	0.40		7
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Lifespan female	Life history	T	2	5	0.40		7
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Male, sternopleural bristle number, 18°C	Morphology		2	5	0.40		8
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Male, sternopleural bristle number, 25°C	Morphology		1	5	0.20		8
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Male, sternopleural bristle number, 29°C	Morphology		1	4	0.25		8
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Female, sternopleural bristle number, 18°C	Morphology		2	5	0.40		8
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Female, sternopleural bristle number, 25°C	Morphology		1	4	0.25		8
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Female, sternopleural bristle number, 29°C	Morphology		2	6	0.33	0.5238	8
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Male, abdominal bristle number, 18°C	Morphology		1	4	0.25		8
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Male, abdominal bristle number, 25°C	Morphology		3	6	0.50	1.0000	8
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Male, abdominal bristle number, 29°C	Morphology		3	6	0.50	1.0000	8
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Female, abdominal bristle number, 18°C	Morphology		3	6	0.50	1.0000	8
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Female, abdominal bristle number, 25°C	Morphology		2	5	0.40		8
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Female, abdominal bristle number, 29°C	Morphology		2	6	0.33	0.5238	8
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Male lifespan	Life history	T	10	23	0.43	0.6776	9
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Female lifespan	Life history	T	4	23	0.17	0.0018	9
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Male lifespan/low density	Life history	T	1	3	0.33		10

Kingdom	Species	Cross	Mating system	Trait	Trait type	Timing (T)	No. antag. QTLs	Total QTLs	Ratio	P	Ref.
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Female lifespan/low density	Life history	T	1	3	0.33		10
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Male lifespan/high density	Life history	T	0	2	0.00		10
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Female lifespan/high density	Life history	T	0	1	0.00		10
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Hind grooming	Behavior		0	2	0.00		11
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Quivering	Behavior		1	2	0.50		11
Animal	<i>Drosophila melanogaster</i>	Intra	Outcross	Grasping	Behavior		1	2	0.50		11
Animal	<i>Drosophila melanogaster</i>	Intra	Outeross	Self-righting	Behavior		0	2	0.00		11
Animal	<i>Drosophila sechellia</i>	Intra	Outcross	Toxin resistance	Physiology		0	5	0.00		12
Animal	<i>Drosophila sechellia</i> x <i>D. simulans</i> and <i>D. melanogaster</i>	Inter	Outcross	Larval hairs	Morphology		0	1	0.00		13
Animal	<i>Drosophila simulans</i> x <i>D. mauritiana</i>	Inter	Outcross	Posterior lobe	Morphology		1	19	0.05	0.0001	14
Animal	<i>Drosophila simulans</i> x <i>D. mauritiana</i>	Inter	Outcross	Anal plate bristle number	Morphology		2	6	0.33	0.5238	15
Animal	<i>Drosophila simulans</i> x <i>D. mauritiana</i>	Inter	Outcross	Clasper bristle number	Morphology		0	1	0.00		15
Animal	<i>Drosophila simulans</i> x <i>D. mauritiana</i>	Inter	Outcross	Sex comb tooth number	Morphology		1	2	0.50		15
Animal	<i>Drosophila simulans</i> x <i>D. mauritiana</i>	Inter	Outcross	Fifth sternite bristle number	Morphology		0	1	0.00		15
Animal	<i>Drosophila simulans</i> x <i>D. mauritiana</i>	Inter	Outcross	Anal plate area	Morphology		0	3	0.00		15
Animal	<i>Drosophila simulans</i> x <i>D. mauritiana</i>	Inter	Outcross	Posterior lobe area	Morphology		0	8	0.00	0.0061	15
Animal	<i>Drosophila simulans</i> x <i>D. sechellia</i>	Inter	Outcross	Posterior lobe area, sim BC	Morphology		2	11	0.18	0.0654	16
Animal	<i>Drosophila simulans</i> x <i>D. sechellia</i>	Inter	Outcross	Posterior lobe area, adjPC1, sim BC	Morphology		2	9	0.22	0.1797	16
Animal	<i>Drosophila simulans</i> x <i>D. sechellia</i>	Inter	Outcross	Sex comb tooth , sim BC	Morphology		1	4	0.25		16
Animal	<i>Drosophila simulans</i> x <i>D. sechellia</i>	Inter	Outcross	Testis length, sim BC	Morphology		1	7	0.14	0.1250	16
Animal	<i>Drosophila simulans</i> x <i>D. sechellia</i>	Inter	Outcross	Cyst length, sim BC	Morphology		0	3	0.00		16
Animal	<i>Drosophila simulans</i> x <i>D. sechellia</i>	Inter	Outcross	Tibia length, sim BC	Morphology		1	5	0.20		16
Animal	<i>Drosophila simulans</i> x <i>D. sechellia</i>	Inter	Outcross	Posterior lobe area, sim BC	Morphology		0	11	0.00	0.0010	16
Animal	<i>Drosophila simulans</i> x <i>D. sechellia</i>	Inter	Outcross	Posterior lobe area, adjPC1, sec BC	Morphology		4	9	0.44	1.0000	16
Animal	<i>Drosophila simulans</i> x <i>D. sechellia</i>	Inter	Outcross	Sex comb tooth number, sec BC	Morphology		0	4	0.00		16
Animal	<i>Drosophila simulans</i> x <i>D. sechellia</i>	Inter	Outcross	Testis length, sec BC	Morphology		3	7	0.43	1.0000	16
Animal	<i>Drosophila simulans</i> x <i>D. sechellia</i>	Inter	Outcross	Cyst length, sec BC	Morphology		0	3	0.00		16
Animal	<i>Drosophila simulans</i> x <i>D. sechellia</i>	Inter	Outcross	Tibia length, sec BC	Morphology		2	5	0.40		16
Animal	<i>Gasterosteus aculeatus</i> (limnetic x benthic species)	Inter	Outcross	Gill raker number	Morphology		0	2	0.00		17
Animal	<i>Gasterosteus aculeatus</i> (limnetic x benthic species)	Inter	Outcross	Lateral plate number	Morphology		0	2	0.00		17
Animal	<i>Gasterosteus aculeatus</i> (limnetic x benthic species)	Inter	Outcross	Dorsal spine, 1 length	Morphology		0	2	0.00		17
Animal	<i>Gasterosteus aculeatus</i> (limnetic x benthic species)	Inter	Outcross	Dorsal spine, 2 length	Morphology		0	2	0.00		17
Animal	<i>Gasterosteus aculeatus</i> (limnetic x benthic species)	Inter	Outcross	Pelvic spine length	Morphology		0	1	0.00		17

Kingdom	Species	Cross	Mating system	Trait	Trait type	Timing (T)	No. antag. QTLs	Total QTLs	Ratio	P	Ref.
	benthic species)										
Animal	<i>Mus musculus</i>	Intra	Outcross	Body weight	Morphology		5	11	0.45	1.0000	18
Animal	<i>Mus musculus</i>	Intra	Outcross	Aggressive behavior	Behavior		0	2	0.00		19
Animal	<i>Oncorhynchus mykiss</i>	Intra	Outcross	Time to hatch	Life history	T	0	3	0.00		20
Animal	<i>Oncorhynchus mykiss</i>	Intra	Outcross	Embryonic length	Morphology		0	2	0.00		20
Animal	<i>Oncorhynchus mykiss</i>	Intra	Outcross	Weight at swim-up	Morphology		1	2	0.50		20
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Hypocotyl length: white light	Morphology		1	4	0.25		21
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Hypocotyl length: red light	Morphology		2	4	0.50		21
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Hypocotyl length: blue light	Morphology		1	4	0.25		21
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Hypocotyl length: far-red light	Morphology		1	5	0.20		21
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Hypocotyl length: white light + GA	Morphology		1	3	0.33		21
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Hypocotyl length: dark + brassinazole	Morphology		1	3	0.33		21
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Total leaf number	Morphology		2	4	0.50		22
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Largest leaf length	Morphology		3	7	0.43	1.0000	22
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Plant height	Morphology		2	4	0.50		22
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Side shoot number	Morphology		2	4	0.50		22
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Flowering time	Life history	T	0	5	0.00		23
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Days to first flower	Life history	T	0	2	0.00		24
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Leaf length at flowering	Morphology		0	3	0.00		24
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Leaf length at 35 days	Morphology		0	2	0.00		24
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	No. of nodes	Morphology		0	1	0.00		24
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Fruit no. in main inflor	Life history		1	3	0.33		22
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Seed weight	Morphology		2	10	0.20	0.0879	22
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Seed length	Morphology		2	8	0.25	0.2270	22
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Fruit length	Morphology		3	6	0.50	1.0000	22
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Ovary length	Morphology		2	4	0.50		22
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Ovule no./fruit	Life history		2	4	0.50		22
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Seed no./fruit	Life history		2	4	0.50		22
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	% of unfert. ovules	Life history		2	6	0.33	0.5238	22
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Fresh flower mass	Morphology		1	2	0.50		25
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Petal length	Morphology		4	10	0.40	0.6060	25
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Petal width	Morphology		0	2	0.00		25
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Sepal length	Morphology		2	5	0.40		25
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Sepal width	Morphology		1	3	0.33		25
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Short stamen length	Morphology		3	7	0.43	1.0000	25
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Long stamen length	Morphology		2	4	0.50		25
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Pistil length	Morphology		0	5	0.00		25
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	PC1 (floral traits)	Morphology		2	5	0.40		25
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	PC2 (floral traits)	Morphology		1	2	0.50		25
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Flowering time	Life history	T	3	7	0.43	1.0000	26
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Total leaf number	Morphology		2	7	0.29	0.4531	26
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Rosette leaf number	Morphology		3	7	0.43	1.0000	26
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Cauline leaf number	Morphology		1	5	0.20		26
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Flowering time	Life history	T	1	3	0.33		26
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Total leaf number	Morphology		1	3	0.33		26

Kingdom	Species	Cross	Mating system	Trait	Trait type	Timing (T)	No. antag. QTLs	Total QTLs	Ratio	P	Ref.
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Rosette leaf number	Morphology		2	4	0.50		26
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Cauline leaf number	Morphology		1	4	0.25		26
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Flowering time	Life history	T	1	2	0.50		26
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Total leaf number	Morphology		1	2	0.50		26
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Rosette leaf number	Morphology		1	2	0.50		26
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Cauline leaf number	Morphology		1	2	0.50		26
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Seed dormancy	Life history		7	14	0.50	1.0000	27
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Rosette leaf number	Morphology		2	5	0.40		28
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Seed storability	Physiology		1	4	0.25		29
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Seed starchose content	Physiology		1	2	0.50		29
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Seed raffinose content	Physiology		0	1	0.00		29
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Seed sucrose content	Physiology		0	3	0.00		29
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Phosphoglucomutase	Physiology		0	1	0.00		30
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Glucose-6-phosphate dehydrogenase	Physiology		0	1	0.00		30
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Phosphoglucose isomerase	Physiology		0	2	0.00		30
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Glucose-6-phosphatase	Physiology		1	3	0.33		30
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Hexokinase	Physiology		0	1	0.00		30
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Myrosinase	Physiology		0	2	0.00		30
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Shikimic dehydrogenase	Physiology		1	2	0.50		30
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Period of circadian clock	Physiology	T	2	4	0.50		31
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Rosette leaf number	Morphology		2	5	0.40		28
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Flowering date	Life history	T	2	5	0.40		28
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Rosette leaf number	Morphology		1	6	0.17	0.1667	32
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Flowering date	Life history	T	3	7	0.43	1.0000	32
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Four-leaf stage	Life history	T	0	1	0.00		33
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Flowering time	Life history	T	1	3	0.33		33
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Rosette leaf number	Morphology		2	4	0.50		33
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Dry biomass	Morphology		0	1	0.00		33
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Longevity	Life history	T	0	1	0.00		33
Plant	<i>Arabidopsis thaliana</i>	Intra	Self	Fruit number	Life history		0	1	0.00		33
Plant	<i>Capsella bursa-pastoris</i>	Intra	Self	Onset of flowering	Life history	T	0	3	0.00		34
Plant	<i>Capsella bursa-pastoris</i>	Intra	Self	Rosette leaf number	Morphology		0	5	0.00		34
Plant	<i>Capsella bursa-pastoris</i>	Intra	Self	Inflorescence height	Morphology		0	3	0.00		34
Plant	<i>Capsella bursa-pastoris</i>	Intra	Self	Maximal plant height	Morphology		0	4	0.00		34
Plant	<i>Capsella bursa-pastoris</i>	Intra	Self	Rosette diameter	Morphology		2	5	0.40		34
Plant	<i>Capsella bursa-pastoris</i>	Intra	Self	Stem diameter (begin flower)	Morphology		0	2	0.00		34
Plant	<i>Capsella bursa-pastoris</i>	Intra	Self	No. of basal leaf branches	Morphology		0	3	0.00		34
Plant	<i>Capsella bursa-pastoris</i>	Intra	Self	No. of sterile fruits	Life history		1	4	0.25		34
Plant	<i>Capsella bursa-pastoris</i>	Intra	Self	No. of fruits	Life history		0	3	0.00		34
Plant	<i>Capsella bursa-pastoris</i>	Intra	Self	Fruit length	Morphology		1	3	0.33		34
Plant	<i>Capsella bursa-pastoris</i>	Intra	Self	Pedicel length	Morphology		1	3	0.33		34
Plant	<i>Capsella bursa-pastoris</i>	Intra	Self	Seed number	Life history		1	4	0.25		34
Plant	<i>Capsella bursa-pastoris</i>	Intra	Self	Stem diameter (end flower)	Morphology		1	4	0.25		34
Plant	<i>Microseris douglasii x M. bigelovii</i>	Inter	Self	Trichome appearance	Morphology		1	3	0.33		35
Plant	<i>Mimulus cardinalis x M. lewisii</i>	Inter	Outcross	Anthocyanin conc.	Physiology		0	1	0.00		36

Kingdom	Species	Cross	Mating system	Trait	Trait type	Timing (T)	No. antag. QTLs	Total QTLs	Ratio	P	Ref.
Plant	<i>Mimulus cardinalis</i> x <i>M. lewisii</i>	Inter	Outcross	Anthocyanin conc.	Physiology		0	3	0.00		36
Plant	<i>Mimulus cardinalis</i> x <i>M. lewisii</i>	Inter	Outcross	Lateral petal width	Morphology		2	8	0.25	0.2270	36
Plant	<i>Mimulus cardinalis</i> x <i>M. lewisii</i>	Inter	Outcross	Corolla width	Morphology		3	8	0.38	0.5706	36
Plant	<i>Mimulus cardinalis</i> x <i>M. lewisii</i>	Inter	Outcross	corolla projected area	Morphology		3	7	0.43	1.0000	36
Plant	<i>Mimulus cardinalis</i> x <i>M. lewisii</i>	Inter	Outcross	Upper petal reflexing	Morphology		0	5	0.00		36
Plant	<i>Mimulus cardinalis</i> x <i>M. lewisii</i>	Inter	Outcross	Lateral petal reflexing	Morphology		0	4	0.00		36
Plant	<i>Mimulus cardinalis</i> x <i>M. lewisii</i>	Inter	Outcross	Nectar volume	Physiology		0	3	0.00		36
Plant	<i>Mimulus cardinalis</i> x <i>M. lewisii</i>	Inter	Outcross	Stamen length	Morphology		0	7	0.00	0.0156	36
Plant	<i>Mimulus cardinalis</i> x <i>M. lewisii</i>	Inter	Outcross	Pistil length	Morphology		0	7	0.00	0.0156	36
Plant	<i>Mimulus cardinalis</i> x <i>M. lewisii</i>	Inter	Outcross	Corolla aperture width	Morphology		2	8	0.25	0.2270	36
Plant	<i>Mimulus cardinalis</i> x <i>M. lewisii</i>	Inter	Outcross	Corolla aperture height	Morphology		0	4	0.00		36
Plant	<i>Pinus silvestris</i>	Intra	Outcross	Bud set, 1994	Life history	T	0	1	0.00		37
Plant	<i>Pinus silvestris</i>	Intra	Outcross	Bud set, 1996	Life history	T	0	2	0.00		37
Plant	<i>Pinus silvestris</i>	Intra	Outcross	Frost hardiness	Physiology		2	7	0.29	0.4531	37
Plant	<i>Populus trichocarpa</i> x <i>P. deltoides</i>	Inter	Outcross	Bud set	Life history	T	2	4	0.50		38
Plant	<i>Populus trichocarpa</i> x <i>P. deltoides</i>	Inter	Outcross	Bud flush	Life history	T	3	9	0.33	0.5078	38
Plant	<i>Populus trichocarpa</i> x <i>P. deltoides</i>	Inter	Outcross	Spring bud flush	Life history	T	1	5	0.20		39
Plant	<i>Senecio vulgaris</i>	Intra	Outcross x self	Days to bud formation	Life history	T	0	1	0.00		40
Plant	<i>Senecio vulgaris</i>	Intra	Outcross x self	Plant height	Morphology		0	2	0.00		40
Plant	<i>Senecio vulgaris</i>	Intra	Outcross x self	Leaf number	Morphology		0	2	0.00		40
Plant	<i>Senecio vulgaris</i>	Intra	Outcross x self	Lateral branch number	Morphology		0	1	0.00		40
Plant	<i>Senecio vulgaris</i>	Intra	Outcross x self	Outer involucral bracts	Morphology		0	1	0.00		40
Plant	<i>Senecio vulgaris</i>	Intra	Outcross x self	Disc florets/capitulum	Morphology		0	1	0.00		40
Plant	<i>Tetramolopium rockii</i> x <i>T. humilis</i>	Inter	Outcross	Sex expression in disc florets	Life history		0	2	0.00		41
Plant	<i>Zea diploperennis</i> x <i>Z. mays</i>	Inter	Outcross	No. of tassel branches	Morphology		2	7	0.29	0.4531	42
Plant	<i>Zea diploperennis</i> x <i>Z. mays</i>	Inter	Outcross	Length of central spike	Morphology		0	2	0.00		42
Plant	<i>Zea diploperennis</i> x <i>Z. mays</i>	Inter	Outcross	Length of branching space	Morphology		1	6	0.17	0.1667	42
Plant	<i>Zea diploperennis</i> x <i>Z. mays</i>	Inter	Outcross	Length of sessile spikelet	Morphology		3	8	0.38	0.5706	42
Plant	<i>Zea diploperennis</i> x <i>Z. mays</i>	Inter	Outcross	Width of rachis on central spike	Morphology		2	5	0.40		42
Plant	<i>Zea diploperennis</i> x <i>Z. mays</i>	Inter	Outcross	Mean internode length of central spike	Morphology		2	6	0.33	0.5238	42

Studies and/or traits are categorized in terms of kingdom, cross type, mating system, trait type, and whether or not the trait is related to the timing of developmental events. The number of antagonistic QTLs, the total number of QTLs detected, the proportion of QTLs with antagonistic or opposing effects are given for each trait. For traits with greater than six detected QTLs, the probability that the observed ratio results from neutral divergence is also provided.

1. Hawthorne, D. J. & Via, S. (2001) *Nature (London)* **412**, 904-907.
2. Knight, C. G., Azevedo, R. B. R. & Leroi, A. M. (2001) *Evolution* **55**, 1795-1804.
3. Shook, D. R. & Johnson, T. E. (1999) *Genetics* **153**, 1233-1243.
4. Wayne, M. L., Hackett, J. B., Dilda, C. L., Nuzhdin, S. V., Pasyukova, E. G. & Mackay, T. F. C. (2001) *Genet. Res.* **77**, 107-116.

5. Takahashi, A., Tsaur, S. C., Coyne, J. A. & Wu, C.-I. (2001) *Proc. Natl. Acad. Sci. USA* **98**, 3920-3925.
6. Nuzhdin, S. V. & Reiwitch, S. G. (2000) *Heredity* **84**, 97-102.
7. Nuzhdin, S. V., Pasyukova, E. G., Dilda, C. L., Zeng, Z. B. & Mackay, T. F. C. (1997) *Proc. Natl. Acad. Sci. USA* **94**, 9734-9739.
8. Gurganus, M. C., Fry J. D., Nuzhdin, S. V., Pasyukova, E. G., Lyman, R. F. & Mackay, T. F. C. (1998) *Genetics* **149**, 1883-1898.
9. Vieira, C. Pasyukova, E. G., Zeng, Z. B., Hackett, J. B., Lyman, R. F. & Mackay, T. F. C. (2000) *Genetics* **154**, 213-227.
10. Leips, J. & Mackay, T. F. C. (2000) *Genetics* **155**, 1773-1788.
11. Ashton, K., Wagoner, A. P., Carrillo, R. & Gibson, G. (2001) *Genetics* **157**, 283-294.
12. Jones, C. D. (1998) *Genetics* **149**, 1899-1908.
13. Sucena, E. & Stern, D. L. (2000) *Proc. Natl. Acad. Sci. USA* **97**, 4530-4534.
14. Zeng, Z. B., Jianjun, L., Stam, L. F., Kao, C. H., Mercer, J. M. & Laurie, C. C. (2000) *Genetics* **154**, 299-310.
15. True, J. R., Jianjun, L., Lynn, F. S., Zeng, Z. B., & Laurie, C. C. (1997) *Evolution* **51**, 816-832.
16. Macdonald, S. J. & Goldstein, D. B. (1999) *Genetics* **153**, 1683-1699.
17. Peichel, C. L., Nereng, K. S., Ohgi, K. A., Cole, B. L. E., Colosimo, P. F., Buerkle, C. A., Schluter, D. & Kingsley, D. M. (2001) *Nature (London)* **414**, 901-905.
18. Keightly, P. D., Hardge, T., May, L. & Bulfield, G. A. (1996) *Genetics* **142**, 227-235.
19. Brodkin, E. S., Goforth, S. A., Keene, A. H., Fossella, J. A., & Silver, L. M. (2002) *J. Neurosci.* **22**, 1165-1170.
20. Robison, B. D., Wheeler, P. A., Sundin, K., Sikka, P. & Thorgaard, G. H. (2001) *J. Hered.* **92**, 1622.
21. Borevitz, J. O., Maloof, J. N., Lutes, J., Dabi, T., Redfern, J. L., Trainer, G. T., Werner, J. D., Asami, T., Berry, C. C., Weigel, D. & Chory, J. (2002) *Genetics* **160**, 683-696.
22. Alonso-Blanco, C., Blankestijn-De Vries, H., Hanhart, C.J. & Koornneef, M. (1999) *Proc. Natl. Acad. USA* **96**, 4710-4717.
23. Kuitinen, H., Sillanpaa, M. J. & Savolainen, O. (1997) *Theor. Appl. Genet.* **95**, 573-583.
24. Kowalski, S. P., Lan, T. H., Feldmann, K. A., & Paterson, A. H. (1994) *Mol. Gen. Genet.* **245**, 548-555.
25. Juenger, T., Purugganan, M. & Mackay, T. F. C. (2000) *Genetics* **156**, 1379-1392.
26. Alonso-Blanco, C., El-Assal, S. E., Coupland, G. & Koornneef, M. (1998) *Genetics* **149**, 749-764.
27. van der Schaar, W., Alonso-Blanco, C., Leon-Kloosterziel, K. M., Jansen, R. C., van Ooijen, J. H. & Koornneef, M. (1997) *Heredity* **79**, 190-200.
28. Clarke, J. H., Mithen, R., Brown, J. K. M. & Dean, C. (1995) *Mol. Gen. Genet.* **248**, 278-286.
29. Bentsink, L., Alonso-Blanco, C., Vreugdenhil, D., Tesnier, K., Groot, S. P. C. & Koornneef, M. (2000) *Plant Physiol.* **124**, 1595-1604.
30. Mitchell-Olds, T. & Pedersen, D. (1998) *Genetics* **149**, 739-747.
31. Swarup, K., Alonso-Blanco, C., Lynn, J. R., Michaels, S. D., Amasino, R. M., Koornneef, M. & Millar, A. J. (1999) *Plant* **20**, 67-77.
32. Stratton, D. A. (1998) *Heredity* **81**, 144-155.
33. Ungerer, M. C. (2000) Ph.D. dissertation (Indiana University, Bloomington).
34. Linde, M., Diel, S. & Neuffer, B. (2001) *Ann. Bot.* **87**, 91-99.
35. Hombergen, E. J. & Bachmann, K. (1995) *Theor. Appl. Genet.* **90**, 853-858.
36. Bradshaw, Jr., H. D., Otto, K. G., Frewen, B. E., McKay, J. K. & Schemske, D.W. (1998) *Genetics* **149**, 367-382.
37. Hurme, P., Sillanpaa, M. J., Arjas, E., Repo, T. & Savolainen, O. (2000) *Genetics* **156**, 1309-1322.
38. Frewen, B. E., Chen, T. H. H., Howe, G. T., Davis, J., Rohde, A., Boerjan, W. & Bradshaw, H. D., Jr. (2000) *Genetics* **154**, 837-845.
39. Bradshaw, H. D. , Jr. & Stettler, R. F. (1995) *Genetics* **139**, 963-973.
40. Moritz, D. M. L. & Kadereit, J. W. (2001) *Plant. Biol.* **3**, 544-552.
41. Whitskus, R., Doan, H. & Lowry, T. K. (2000) *Heredity* **85**, 37-42.
42. Westerbergh, A. & Doebley J. (2002) *Evolution* **56**, 273-283.