Supplementary material

Title:

Extent of linkage disequilibrium and effective population size of the Landrace population in Korea

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Supplementary Table 01. Distance classes and bin ranges for the linkage disequilibrium summary

Class	Minimum distance (Mb)	Maximum distance (Mb)	Within class bin distance range (Mb)	No of bins
1	0	0.5	0.01	50
2	0	5	0.1	50

Supplementary Table 02. Chromosome-specific centimorgan to megabase (cM/Mb) conversion ratios

Chromosome	Length (Mb)	Length (cM)	cM/Mb ratio
1	315	130	0.413
2	163	110	0.675
3	145	113	0.779
4	143	111	0.776
5	112	97	0.866
6	158	122	0.772
7	135	117	0.867
8	148	110	0.743
9	154	117	0.76
10	79	99	1.253
11	88	77	0.875
12	64	86	1.344
13	219	97	0.443
14	154	110	0.714
15	158	97	0.614
16	87	78	0.897
17	70	67	0.957
18	61	59	0.967
Total	2,453	1,797	-

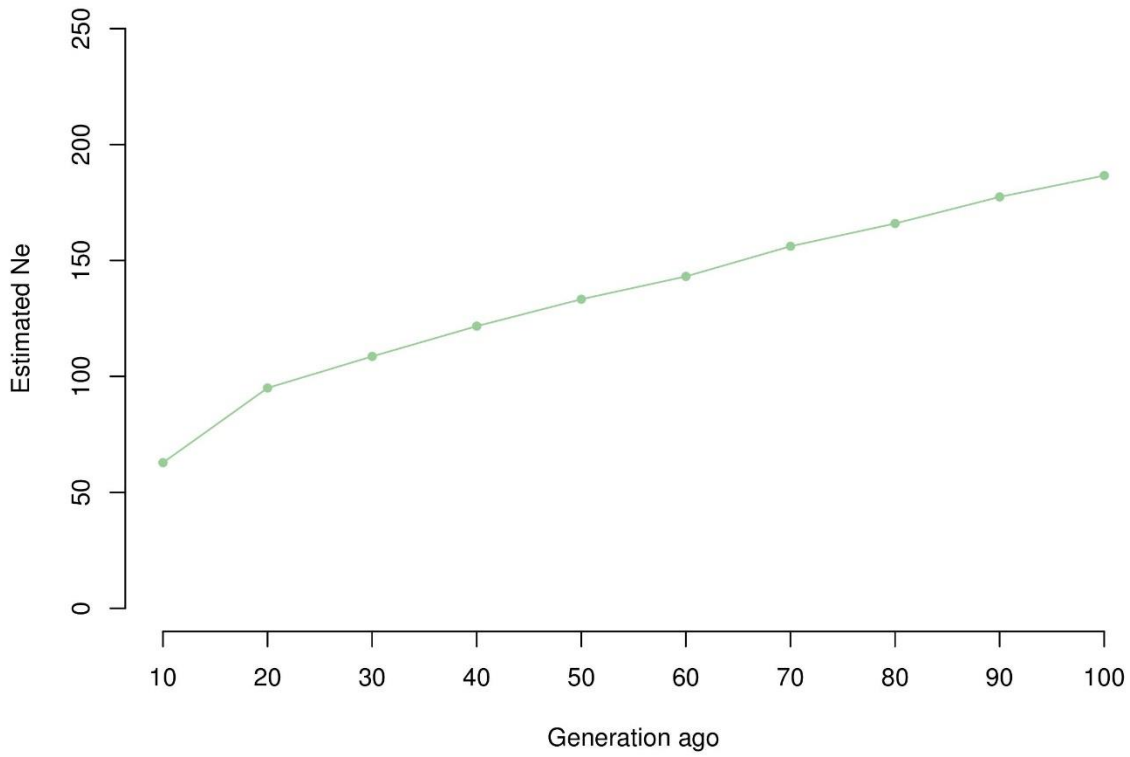
Supplementary Table 03. Description of the generation binning process

Generation range applied to	Number of generations represented by each bin	Number of bins	Example for first bin		
			Generation	Generation range	Corresponding distance range (Morgans)
10–100	10	10	10	5–15	0.033–0.1
200–1,000	100	9	200	150–250	0.002–0.003
2,000–10,000	1,000	9	2,000	1,500–2,500	0.0002–0.0003
20,000–100,000	10,000	9	20,000	15,000–25,000	0.00002–0.00003

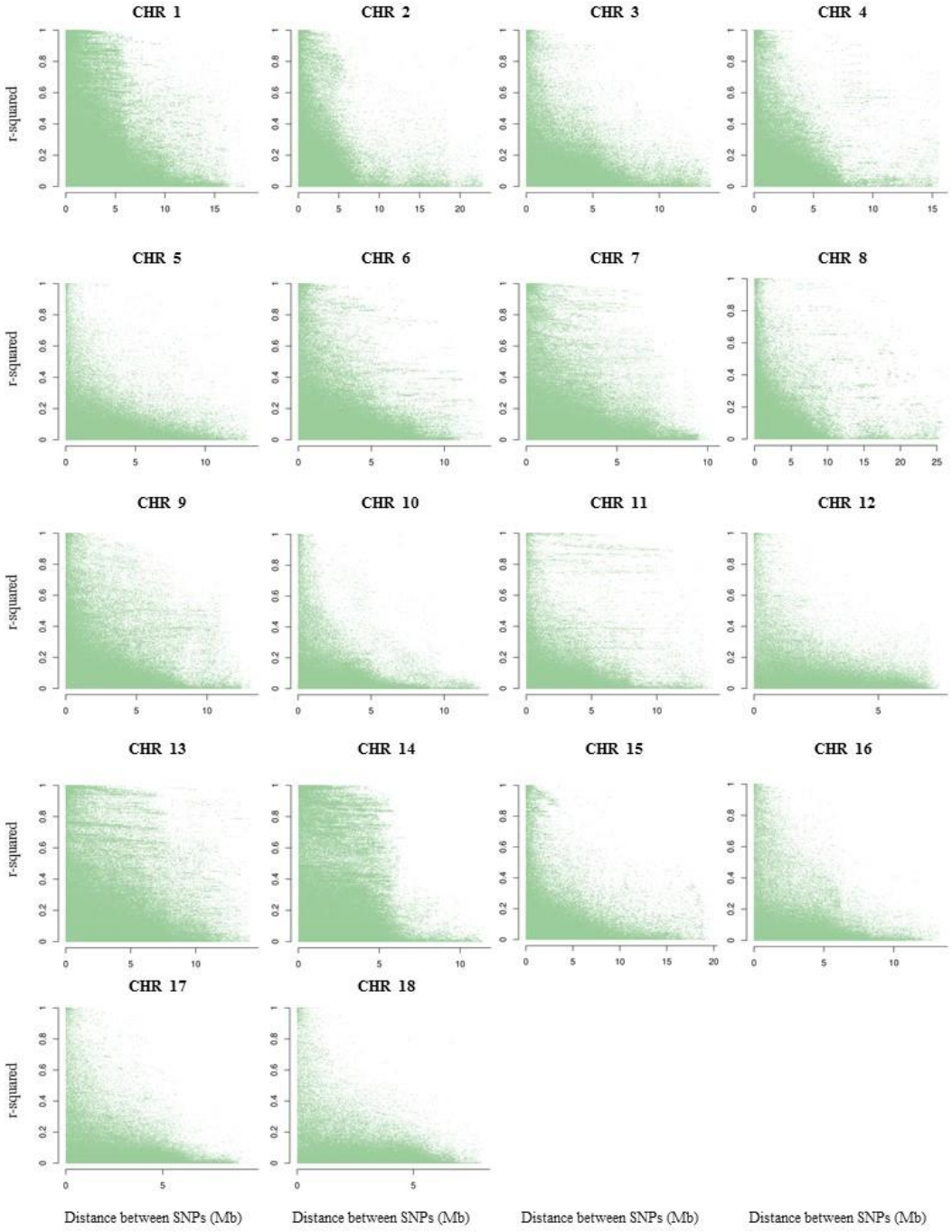
Supplementary Table 04. Average linkage disequilibrium (LD) on different autosomal chromosomes for single nucleotide polymorphisms (SNPs) separated by 50 kb and 5 Mb

Chromosome	Less than 50 kb between two SNPs		Less than 5Mb between two SNPs	
	n	r2	n	r2
1	3,794	0.494	329,061	0.204
2	2,641	0.413	213,589	0.145
3	1,884	0.447	157,550	0.130
4	2,460	0.424	225,339	0.127
5	1,470	0.379	118,795	0.101
6	2,689	0.427	201,570	0.142
7	2,296	0.427	211,486	0.143
8	1,858	0.396	155,635	0.109
9	2,584	0.400	202,953	0.134
10	1,297	0.409	109,590	0.099
11	1,252	0.398	114,606	0.115
12	1,375	0.398	97,573	0.101
13	2,558	0.459	225,620	0.181
14	2,709	0.500	260,080	0.219
15	1,776	0.454	140,231	0.125
16	1,182	0.428	101,244	0.124
17	1,164	0.390	99,870	0.109
18	1,036	0.435	88,739	0.104
Total	36,025	0.434	3,053,531	0.145

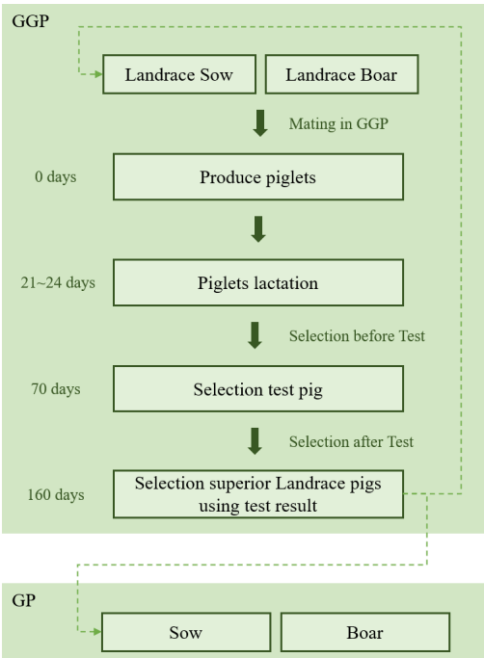
Supplementary Figure 01. Average estimated effective population size versus previous generations, truncated at 100 generations using r2.



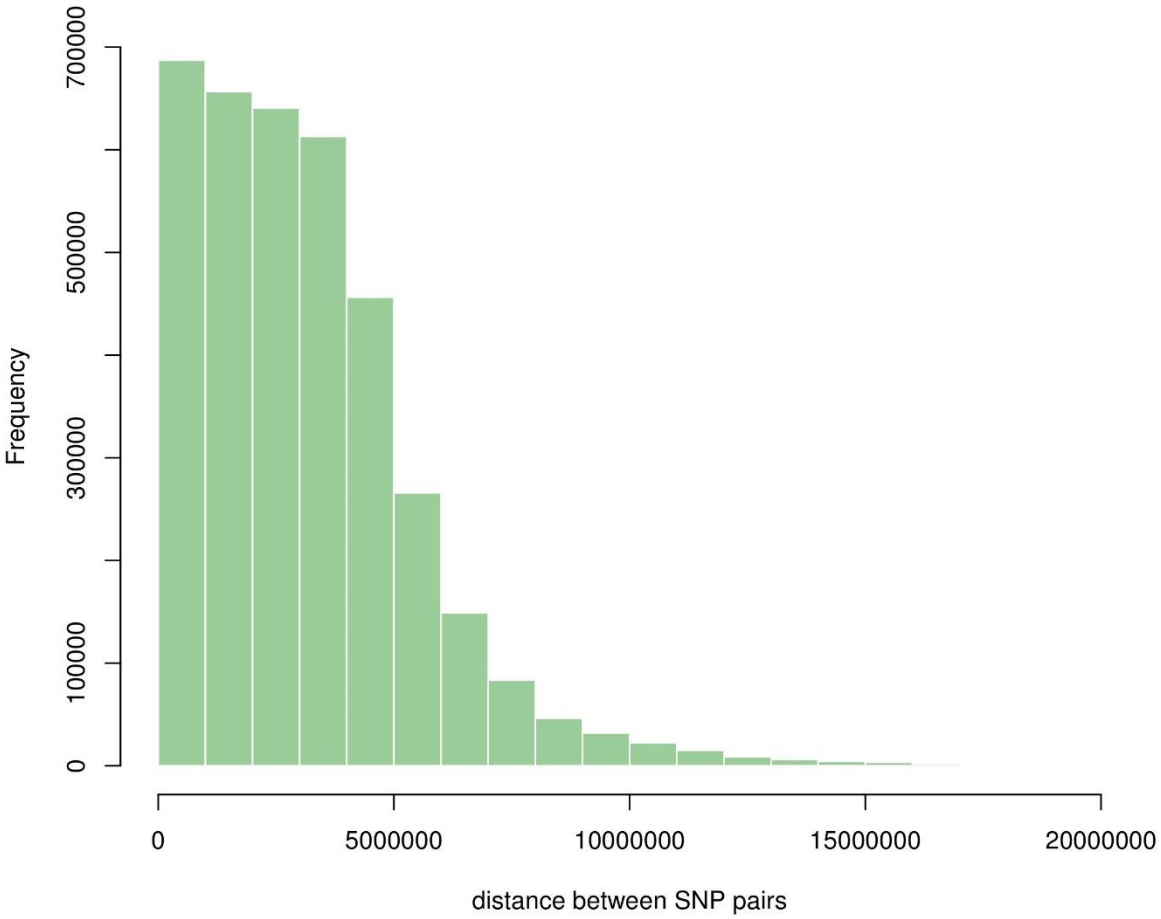
Supplementary Figure 02. Average linkage disequilibrium versus the median of the distance bin range (Mb) per chromosome.



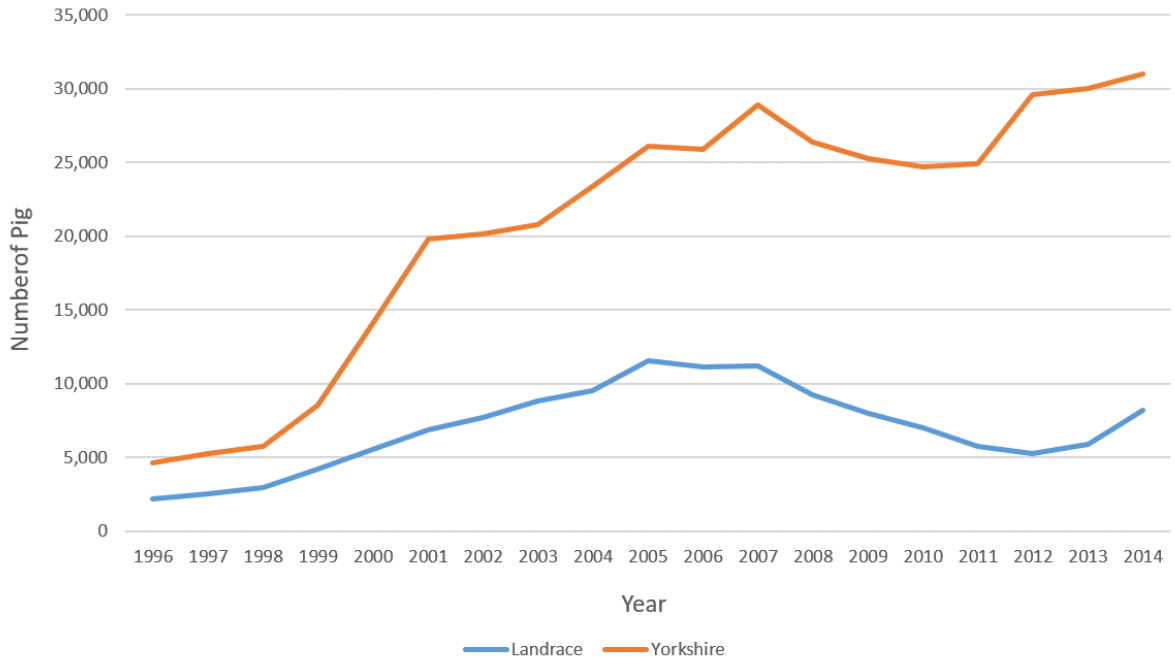
Supplementary Figure 03. Approximate purebred pig (Landrace) production system at each Korean grand-grandparent farm.



Supplementary Figure 04. Histogram of distances between single nucleotide polymorphism (SNP) pairs used to estimate linkage disequilibrium.



Supplementary Figure 05. Number of breeding pigs in the trait test systems of Korean grand-grandparent or grandparent farms per year (Provided by the Korea Animal Improvement Association).



Supplementary Figure 06. Number of breeding pigs imported by Korean grand-grandparent or grandparent farms per year (Provided by the Korea Animal Improvement Association).