

Supplementary table

Table S1. The specific composition for different analysis of the animals in this study.

| Category | Breed | n _{description} | n _{litter1} | n _{EBV} | n _{litter2} | n _{genotype} | n _{litter3} |
|--------------------------|--------|--------------------------|----------------------|------------------|----------------------|-----------------------|----------------------|
| Chinese Jianghai pigs | JX-EHL | 343 | 1478 | 343 | 1478 | 177 | 827 |
| | CS-EHL | 156 | 550 | / | / | 116 | 497 |
| | ST-EHL | 75 | 339 | / | / | 70 | 314 |
| | KS-MS | 263 | 1210 | 263 | 1210 | 153 | 857 |
| | ST-MS | 54 | 215 | / | / | 47 | 201 |
| | TC-MS | 79 | 283 | / | / | 73 | 266 |
| Southern Chinese pigs | JXH | / | / | / | / | 62 | / |
| | BMX | / | / | / | / | 32 | / |
| | WZS | / | / | / | / | 20 | / |
| Chinese cultivated breed | SH | 845 | 2465 | 845 | 2465 | 314 | 1242 |
| Chinese lean meat pigs | TPE-L | 3095 | 10264 | 3095 | 10264 | 351 | 741 |
| | CAN-Y | 1252 | 3101 | 1252 | 3101 | 425 | 1165 |
| Western lean meat pigs | USA-Y | 365 | 1326 | 365 | 1326 | 345 | 1150 |
| | FRA-Y | 359 | 704 | 359 | 704 | 359 | 697 |

n_{description}, n_{EBV} and n_{genotype} respectively represents the number of individuals for descriptive analysis, EBV calculation and genotyping. n_{litter1}, n_{litter2} and n_{litter3} respectively represents the number of litters used for descriptive analysis, EBV calculation and genotyping. JX-EHL represents Jiaoxi Erhualian pig; CS-EHL represents Changshu Erhualian pig; ST-EHL represents Sutai Erhualian pig; KS-MS represents Kunshan Meishan pig; ST-MS represents Sutai Meishan pig; TC-MS represents Taicang Meishan pig; JXH represents JiaXinghei pig; BMX represents Bamaxiang pig; WZS represents Wuzhishan pig; SH representative Suhuai pig; TPE-L represents Taiwanese Landrace pig; CAN-Y represents Canadian Yorkshire pig; USA-Y represents American Yorkshire pig; FRA-Y presents French Yorkshire pig.

Table S2. Correlation analysis between year/season and litter size.

| Breed | NBA | | TNB | |
|-------|-------------------|---------------------|-------------------|---------------------|
| | p _{year} | p _{season} | p _{year} | p _{season} |
| KS-MS | 0.000 | 0.801 | 6.00E-06 | 0.694 |
| SH | 0.000 | 0.044 | 1.52E-04 | 0.045 |
| CAN-Y | 0.000 | 0.000 | 4.00E-06 | 0.045 |
| USA-Y | 0.135 | 0.098 | 0.400 | 0.182 |
| FRA-Y | 1.41E-04 | 3.80E-05 | 5.30E-05 | 9.30E-05 |

p_{year} and p_{season} respectively represents the p value of the correlation between the year and NBA/TNB and the correlation between the season and NBA/TNB. KS-MS represents Kunshan Meishan pig; SH representative Suhuai pig; CAN-Y represents Canadian Yorkshire pig; USA-Y represents American Yorkshire pig; FRA-Y presents French Yorkshire pig.