



Genetic analysis for reproductive and longevity traits in Landilly sows

CHHAYA RANI¹, ANUJ CHAUHAN¹, INDRASEN CHAUHAN², SAKSHI VAISHNAV¹, ARGANA AJAY K¹,
 SNEHASMITA PANDA³, BHARAT BHUSHAN¹ and TRIVENI DUTT¹

ICAR-Indian Veterinary Research Institute, Izatnagar, Bareilly, Uttar Pradesh 243 122 India

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Supplementary Table 1. Data sizes for different reproductive traits

Trait	Data size
Age at first mating (AFM)	148
Age at second mating (ASM)	88
Age at first farrowing (AFF)	148
Age at second farrowing (ASF)	88
Gestation length (GL)	146
Weaning to Service Interval (WSI)	87
Litter size/Number Born alive at Birth (LSB) (first farrowing)	148
Litter size/Number Born alive at Birth (LSB) (second farrowing)	85
Litter size/Number alive at Weaning (LSW) (first farrowing)	148
Litter size/Number alive at Weaning (LSW) (second farrowing)	85
Within-litter weight coefficient of variation at birth (CVB) (first farrowing)	146
Within-litter weight coefficient of variation at birth (CVB) (second farrowing)	86
Within-litter weight coefficient of variation at weaning (CVB) (first farrowing)	140
Within-litter weight coefficient of variation at weaning (CVB) (second farrowing)	85

Supplementary Table 2. Data sizes for different stayability and longevity traits

Trait	Data size
Stayability for the gilts up to mating for parity 1 (ST1M)	1268 (sow surviving up to the event-148 and sow removed before the event-1120)
Stayability for the gilts up to mating for parity 2 (ST2M)	1245 (sow surviving up to the event-88 and sow removed before the event-1157)
Stayability for the gilts up to mating for parity 3 (ST3M)	1013 (sow surviving up to the event-47 and sow removed before the event-966)
Stayability for the gilts up to farrowing for parity 1 (ST1F)	1268 (sow surviving up to the event-148 and sow removed before the event-1120)
Stayability for the gilts up to farrowing for parity 2 (ST2F)	1245 (sow surviving up to the event-88 and sow removed before the event-1157)
Stayability for the gilts up to farrowing for parity3 (ST3F)	1013 (sow surviving up to the event-47 and sow removed before the event-966)
Length of Life (LL)	1202
Length of productive life (LPL)	113
Accumulated number of piglets born alive upto parity 2 (ABA2)	84

Supplementary Table 3. Variance components and heritability estimates for reproductive traits

Trait	Variance (s) of random term(s) (Posterior means)		Variance of residual effect (Posterior means)	Heritability (HPD Interval)
	Direct additive effect	Maternal additive effect		
Age at first mating (AFM)	97.9	-	9100	0.01(0 to 0.06)
Age at second mating (ASM)	918.5	-	10675	0.08(0 to 0.45)
Age at first farrowing (AFF)	723.6	-	7036	0.09(0 to 0.50)
Age at second farrowing (ASF)	905.3	-	10772	0.08(0 to 0.44)
Gestation length (GL)	0.3725	-	10.01	0.04(0 to 0.17)
Weaning to Service Interval (WSI)	539.6	-	1025	0.34(0 to 0.99)
Litter size/Number Born alive at Birth (LSB) (first farrowing)	0.3464	0.1974	4.236	0.07(0 to 0.32)
Litter size/Number Born alive at Birth (LSB) (second farrowing)	0.4585	0.5638	6.527	0.06(0 to 0.29)
Litter size/Number alive at Weaning (LSW) (first farrowing)	0.4613	0.4613	6.093	0.07(0 to 0.30)
Litter size/Number alive at Weaning (LSW) (second farrowing)	0.5375	0.6744	7.971	0.06(0 to 0.29)
Within-litter weight coefficient of variation at birth (CVB) (first farrowing)	0.001415	0.0008209	0.003452	0.25(0.04 to 0.50)
Within-litter weight coefficient of variation at birth (CVB) (second farrowing)	0.001849	0.002495	0.002866	0.26(0.03 to 0.36)
Within-litter weight coefficient of variation at weaning (CVW) (first farrowing)	0.002167	0.001195	0.01677	0.11(0.01 to 0.27)
Within-litter weight coefficient of variation at weaning (CVW) (second farrowing)	0.002544	0.001599	0.005568	0.26(0.02 to 0.61)

Supplementary Table 4. Variance components for longevity and stayability traits

Trait	Variance (s) of random term(s) (Posterior means)		Variance of residual effect (Posterior means)	Heritability (HPD interval)
	Direct additive effect	Maternal additive effect		
Length of Life (LL)	8151	-	37250	0.18 (0.08 to 0.28)
Length of Productive Life (LPL)	6313	-	33553	0.14 (0 to 0.68)
ST1M	0.06945	-	1	0.06 (0 to 0.16)
ST2M	0.05317	-	1	0.05(0 to 0.16)
ST3M	0.1736	-	1	0.13(0 to 0.31)
ST1F	0.02056	-	1	0.02(0 to 0.07)
ST2F	0.05332	-	1	0.05(0 to 0.16)
ST3F	0.174	-	1	0.14(0 to 0.31)
ABA2	0.7369	0.5558	13.3	0.05 (0 to 0.25)

Supplementary Table 5. Genetic correlations between
investigated traits

Trait combination	Genetic correlation (HPD Interval)
LSB_FF and LSW_FF	0.24 (-0.45 to 0.86)
LSB_SF and LSW_SF	0.56 (-0.11 to 0.98)
AFM and AFF	0.24 (-0.97 to 0.99)
ASM and ASF	0.41 (-0.75 to 0.99)