Practical examples

1. In the sample set of 10 Californian rabbit females, for which we know the number of live birth offspring, calculate basic genetic parameters (mean, standard deviation, standard error, and coefficient of variation).

2. In large-scale farming, the numbers of all piglets born to 250 sows within their first four farrows were monitored. Calculate the coefficient of repeatability of this utility trait, including its mean error. The values of the root mean square deviations were as follows:

SS_a = 1681,99	SS_e = 3044,25	SS_c = 4756,24

3. Calculate the heritability coefficient value using the half-sib method for the number of offspring in the first litter of arctic foxes. The table shows the number of offspring in the first litters of daughters by unrelated mothers:

Mothers (i)	Number of offspring in the first litter of daughters (xij)						
1	7	6	8	9	5	7	
2	4	5	7	6	5		
3	6	6	7	5			
4	4	3	5	6	6		
5	3	6	4	7			
6	1	3	4	2	8		
7	4	7	4	3	6		
8	6	7	8	8			
9	6	3	9	5	7	6	
10	8	7	5	6	3		
11	2	9	6	6	5		
12	4	5	4	6	6	6	
13	1	5	6	4	8	6	7
p=13							