

Table 1 shows sample sizes for being able to detect differences of the +/- amounts (columns) and for differing repeatability CVs (from replicates at same lab/same operator/same day). For example, if you want to be able to detect differences of 25% with a CV of 15%, the required sample size is 6. The empty cells are for cases where the Ns were very large. The 6% CV was the average repeatability for the particle counts. The 22% CV was the average repeatability for infectious titer.

Table 1. Sample size needed to detect a difference with a repeatability CV

Repeatability CV	+/- Difference to be Detected						
	2%	5%	10%	25%	50%	75%	100%
6%	79	13	4	2	2	2	2
22%	894	149	39	9	4	3	3
10%	197	34	10	4	3	3	3
15%	440	73	20	6	3	3	3
20%	780	128	34	8	4	3	3
25%	1220	198	52	10	5	4	3
30%	1755	282	73	14	6	4	3
35%	2389	384	99	18	7	4	4
40%				23	8	5	4
45%				28	9	6	4
50%				34	10	6	5

Table 2 shows the size of the difference detectable with a sample size of three (3) and a variety of CVs. For example, if the CV is 15%, then a difference of 49% is detectable.

Table 2. Detectable difference with a sample size of 3

Repeatability CV	Detectable Difference
6 %	20 %
10 %	33 %
15 %	49 %
20 %	65 %
22 %	72 %
25 %	82 %
30 %	98 %
35 %	114 %
40 %	131 %
45 %	147 %
50 %	163 %

Pooled Estimates

Estimates of titer based on number of negatives pooled across laboratories/replicates by dilution. Since the correction for diffusion has terms for confluency and infection, laboratory/replicates were pooled if the confluency=0.8 and infection time=3600. There were 29 laboratory/replicates pooled. The table below presents the results.

Poisson Ave	S-K no trim	S-K 20% trim	S-K 50% trim	Max Likelihood
7.653	8.903	7.888	7.346	7.478