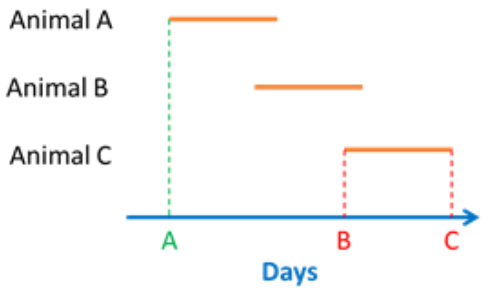
Literature Review – experimental infections with vector-borne pathogens

NOTES AND WARNINGS ON DATA MEANING AND INTERPRETATION, ASSUMPTIONS AND SHORTCOMINGS

1) This literature review screened peer-review papers where experimental infections were conducted. For details of the methods of the literature review, please refer to the full review protocol: https://efsa.onlinelibrary.wiley.com/doi/abs/10.2903/sp.efsa.2017.EN-1171
2) For each paper selected, data were collected according to the animal "study groups", that is, the various experimental groups defined in the study. These could be for instance a control and various treatment groups, groups of different species or age, or subjected to different experimental designs. Please note that the number of observations reported always refers to the total number of animal groups for which data were collected, and this is different (equal or greater than) the total number of studies,
3) Particular attention should be paid to the following definitions:

durationPI	Duration of the Infection experiment.
minIncub	First day in which clinical signs were observed in any animal in the group.
maxIncub	Last day in which clinical signs were observed in any animal in the group.
minDetect	First day in which the VBD agent was detected in the specific listed matrix in any animal in the group.
maxDetect	Last day in which the VBD agent was detected in the specific listed matrix in any animal in the group.

The specific way in which min and max were defined here is of crucial importance to interpreting results. Say we have an animal group with 3 animals, and the figure below represents the window of time during which each animal showed clinical signs. ***minIncub refers to time point A***, and ***maxIncub refers to time point C*** (NOT B). The same would apply for minDetect and maxDetect, if the figure below represented days positive to VBD detection.



Please consider the specific implications when analysing/visualizing the data, among which:

A) The "min" (for clinical signs or detection) represents a distribution for the *earliest* time when positives can be expected to be observed, but are a poor representation of the "average" time to first observation, or of the maximum time an infection can go unnoticed.
B) The actual duration of the clinical signs period for each animal is not documented. Because the "max" is C (not B), maxIncubation does NOT refer to a true incubation period, but rather the end of a "clinical signs observed" period.
C) We can know when the value C is right censored, since we have recorded the duration of the experiment (DPI).
D) The day at which observations/detection *started* was always assumed to be 1, but not actually recorded. The value A can, in theory, be left censored, if observation/detection did not start until a certain time period. When that was obvious, however, we declared the "min" value to be "not given" (if for instance matrices were positive when first tested, but not tested until late in the study).