SELF-EVALUATION EXERCISE 2: Build up the model SEIPDB

The student will try to construct the SIPDB model. It can be build up from the SIPD model. In this model, susceptible animals S can get infected by three processes: contact with infected animals I, contact with dead infected animals D, and contact with free-living pathogens P. Thus, the model needs to incorporate a trasnmission rate for each one of these processes.

The model should consider other two processes in addition to those described in the SIPD model:

(1) Inmigration of S through recruitment of individuals at a given recruitment rate.

(2) Natural or background mortality of S animals

To finish the exercise some diagnostic plots need can be obtained such as (1) dynamics of S, I, D, P, (2) per day infections due to each of the transmission process, and (3) other laternative diagnostic plots as prevalence of infection, cumulative mortality, etc.