



A Bayesian herd-level diagnostic test evaluation - *Mycoplasma bovis*

Nielsen, Per Kantsø; Petersen, Mette Bisgaard; Nielsen, Liza Rosenbaum; Halasa, Tariq; Toft, Nils

Publication date:
2015

Document version
Early version, also known as pre-print

Citation for published version (APA):
Nielsen, P. K., Petersen, M. B., Nielsen, L. R., Halasa, T., & Toft, N. (2015). *A Bayesian herd-level diagnostic test evaluation - Mycoplasma bovis*. Poster session presented at Annual Meeting of the Society of Veterinary Epidemiology and Preventive medicine, Ghent, Belgium.

A Bayesian herd-level diagnostic test evaluation – *Mycoplasma bovis*

Per Kantsø Nielsen¹, Mette Bisgaard Petersen², Liza Rosenbaum Nielsen², Tariq Halasa¹, Nils Toft¹

1) Section for Epidemiology, National Veterinary Institute, Technical University of Denmark

2) Department of Large Animal Sciences, Faculty of Health and Medical Sciences, University of Copenhagen

OBJECTIVE

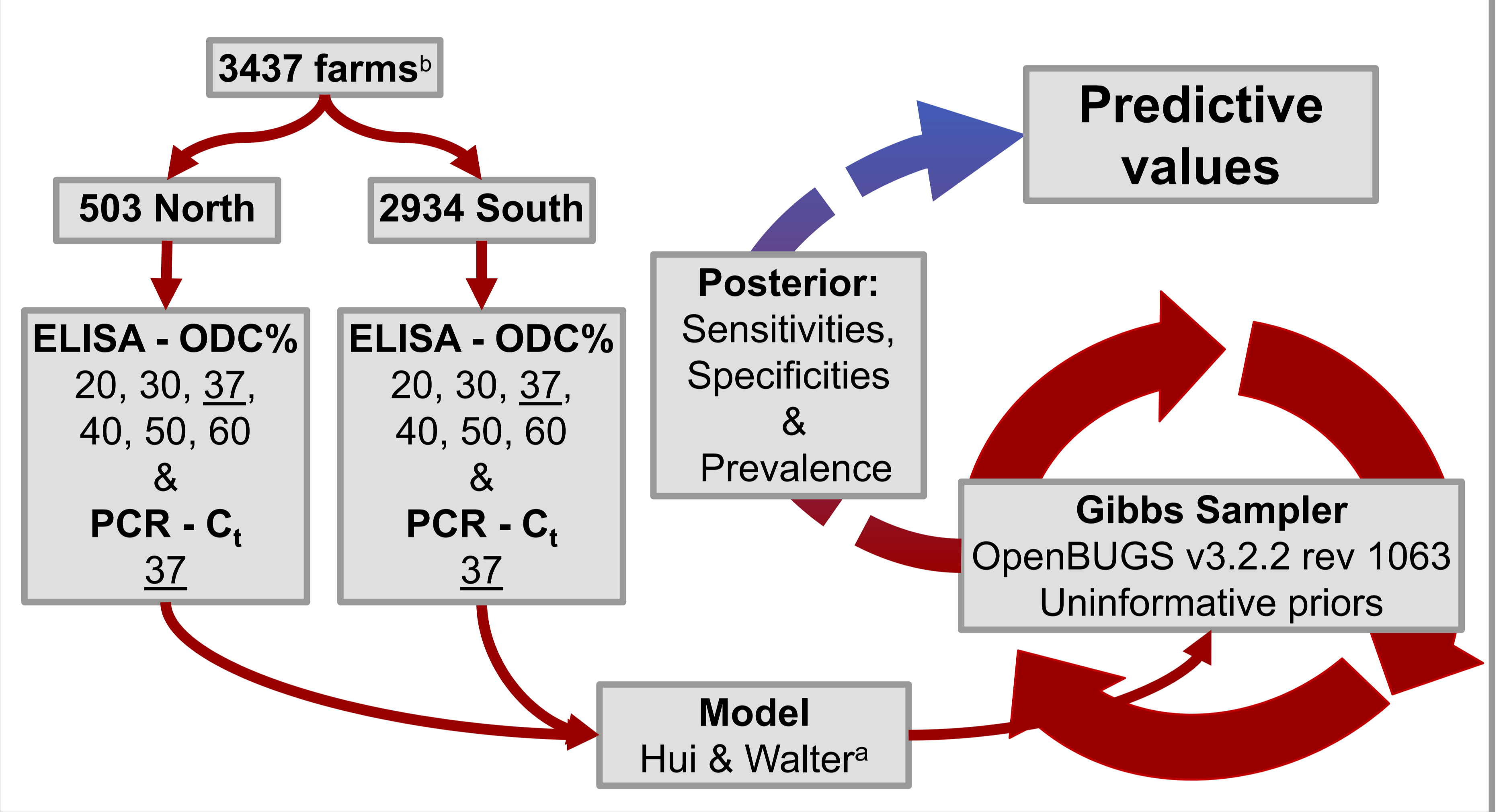
To evaluate the performance, at herd level, of the BIO K 302 *Mycoplasma bovis* ELISA against the PathoProof Mastitis-3 PCR.

M. Bovis causes disease in cattle of all ages. Recently the prevalence among Danish dairy cattle has increased. A diagnostic test evaluation is required to establish a control program.

CONCLUSION

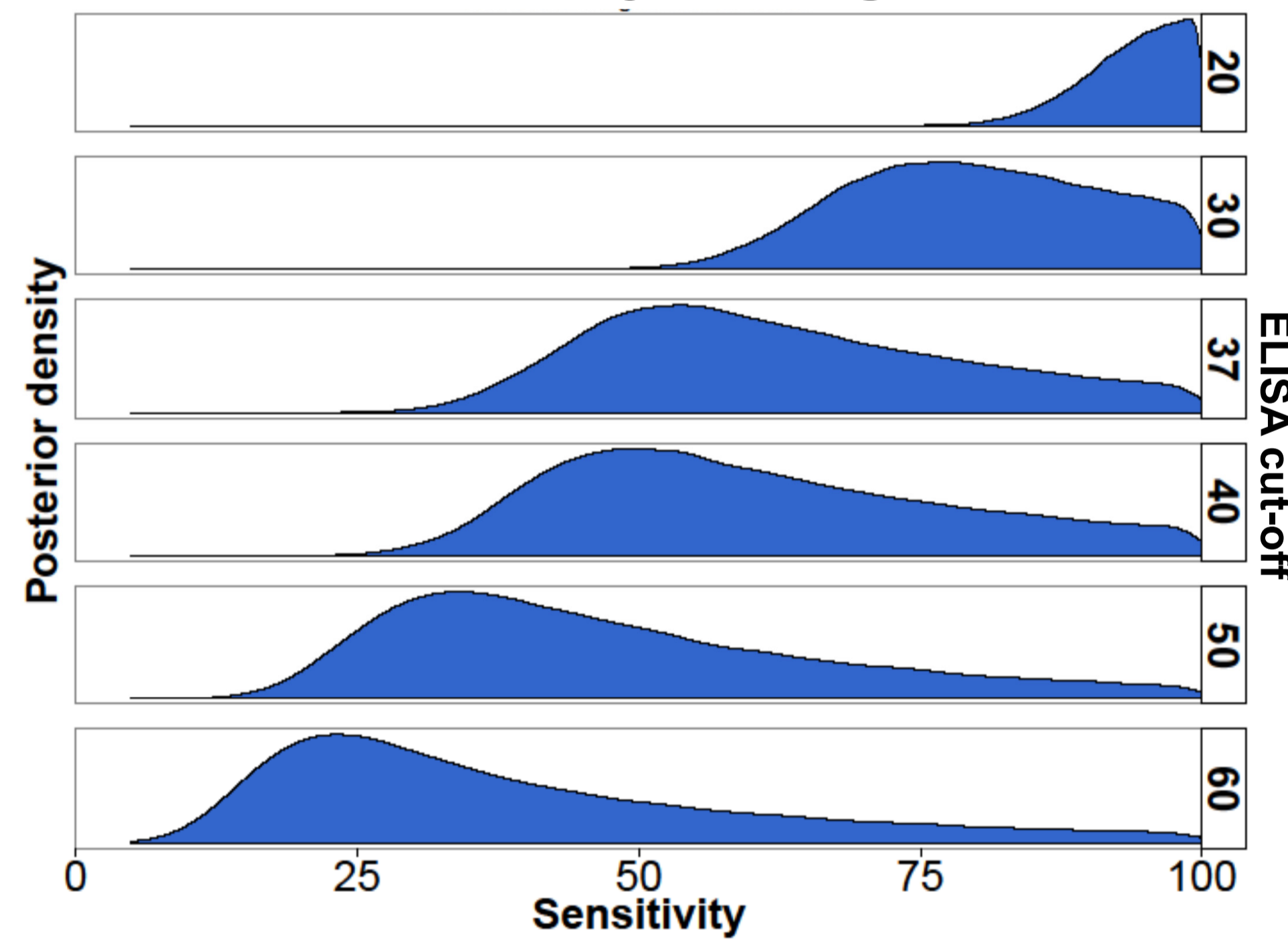
The BIO K 302 ELISA positive predictive value improves, at herd level, if the cut-off is increased.

BAYESIAN LATENT CLASS ANALYSIS

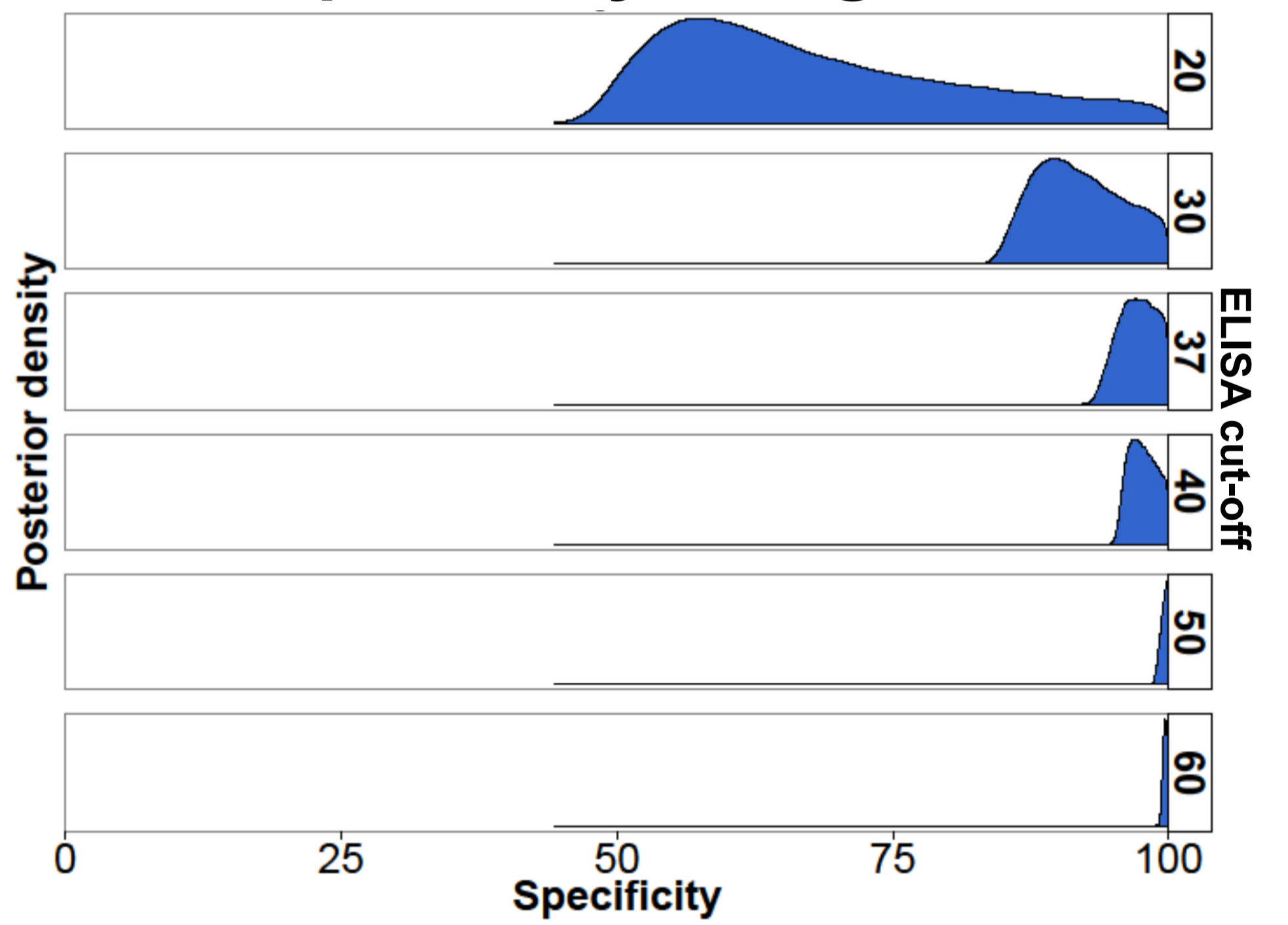


RESULTS

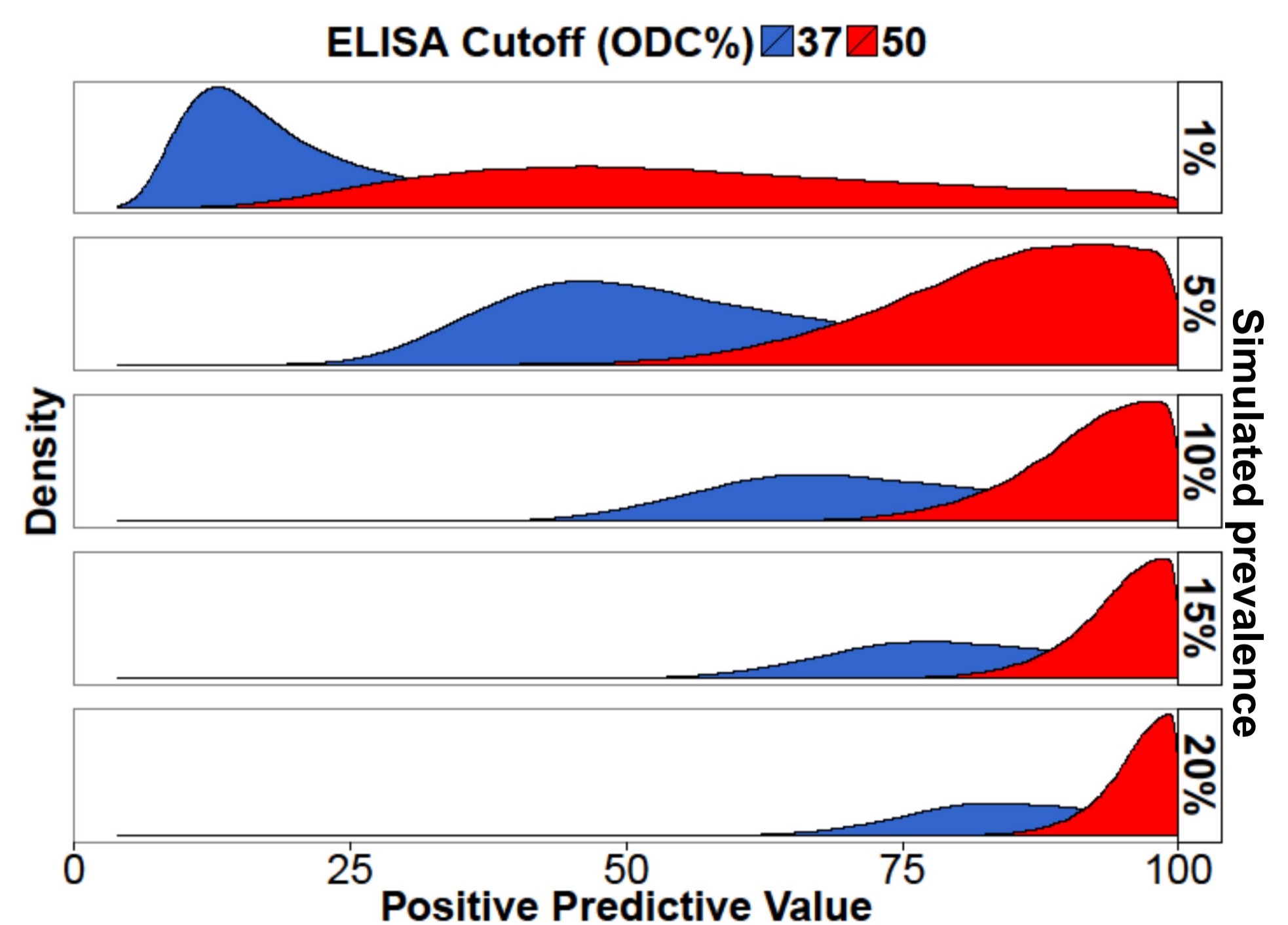
Worse sensitivity at higher cut-off



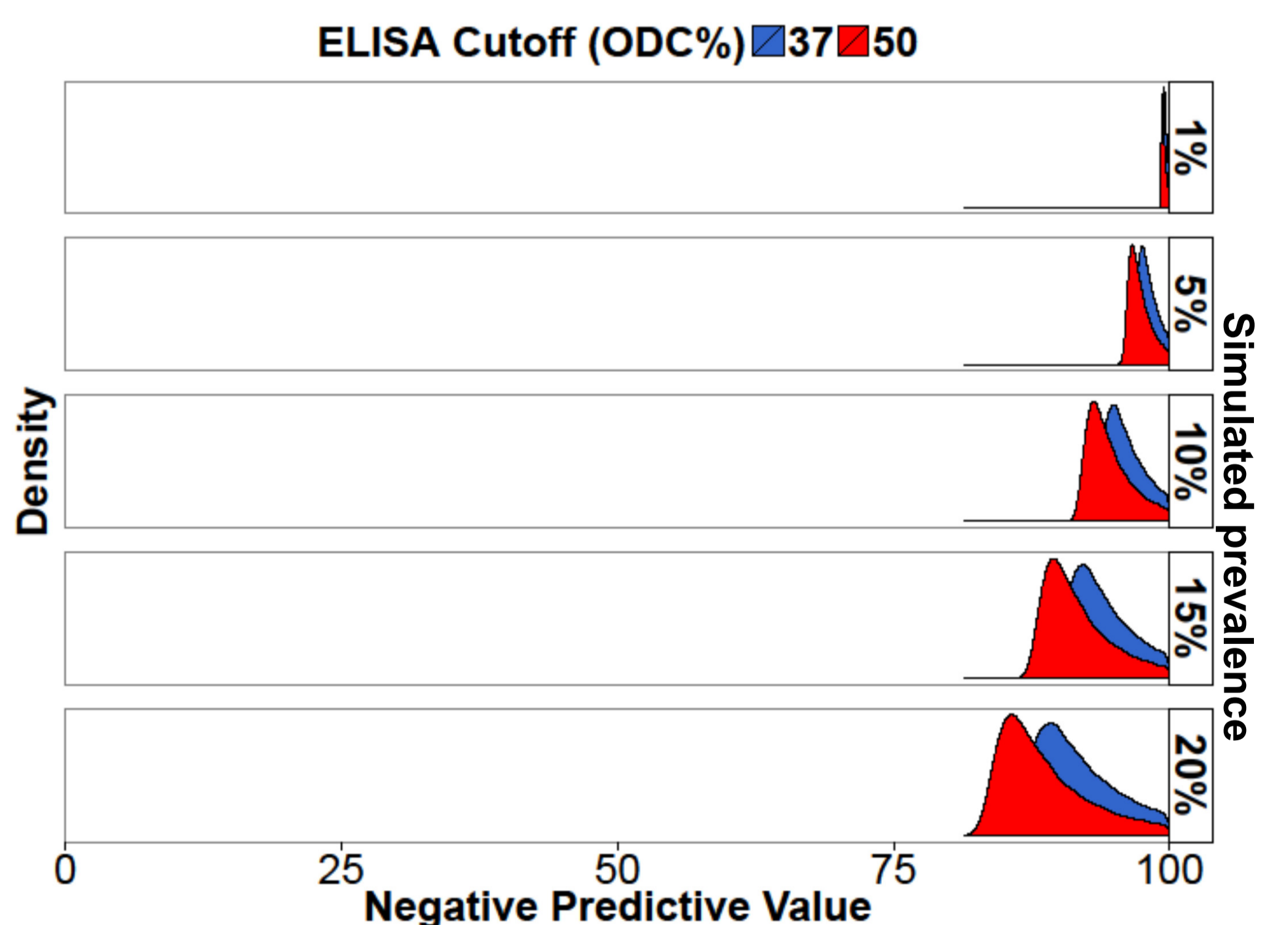
Better specificity at higher cut-off



A high cut-off increases the PPV...



... but reduces the NPV.



a) Hui, S. L., & Walter, S. D. (1980). Estimating the error rates of diagnostic tests. *Biometrics*, 36(1), 167–71

b) Data were supplied by the Knowledge Centre for Agriculture, Aarhus, Denmark.

