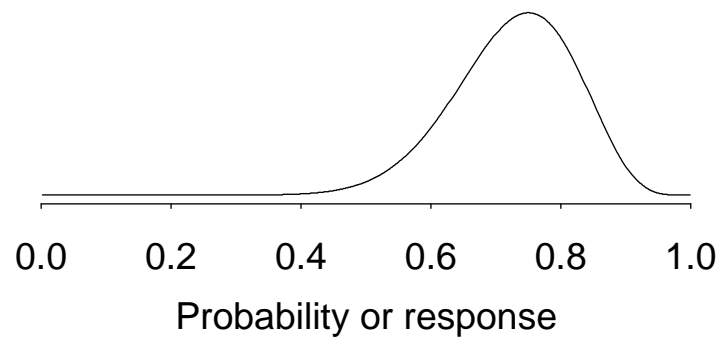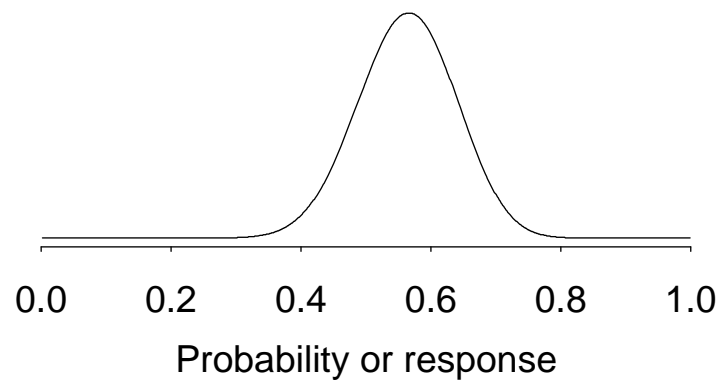Beta(9.2, 13.8) prior distribution supporting response rates between 0.2 and 0.6

Likelihood arising from a Binomial observation of 15 successes out of 20 cases

Parameters of the Beta distribution are updated to (a+15, b+20-15) = (24.2, 18.8): mean 24.2/(24.2+18.8) = 0.56