



**Figure S3** Predictive ability for marker subsets in the rice data set. The predictive ability was estimated with fivefold cross-validation and 10 replications. Average values for RR-BLUP as a function of the number of randomly selected markers are visualized as a straight (dashed) line for flowering time (plant height). Shaded areas indicate the range of 10 different marker subsets. Points with error bars indicate the average and range of the predictive ability obtained by BayesB for subsets of size 30, 5000 and 20000 SNPs.