SUPPLEMENTARY DATA

Fig. S1. Distribution of stomata on leaf surface for all coverage ratios. Stomata are indicated by dark spots.
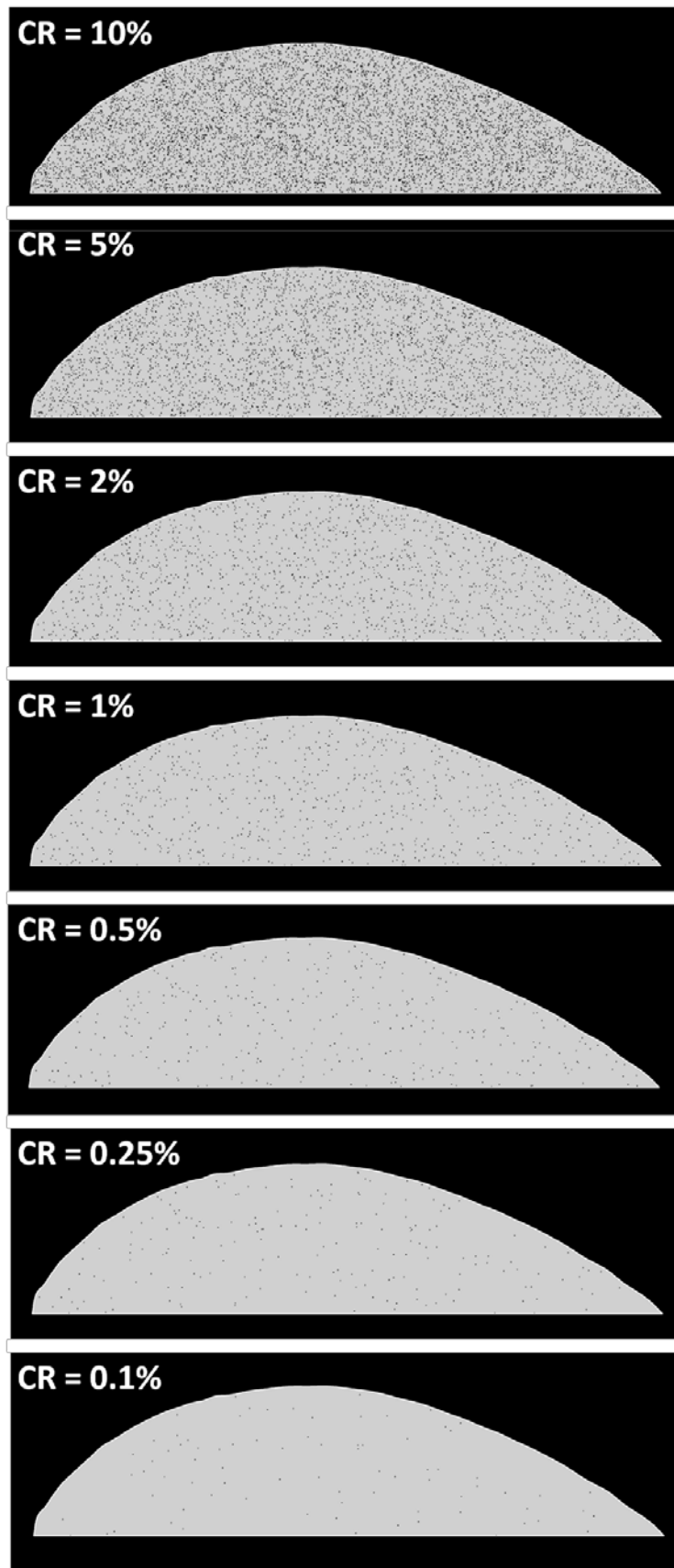
Fig. S2. Computational grid for leaf including the horizontal and vertical centreplane. The leaf is indicated in green in (a) and (b), and in blue in (c).
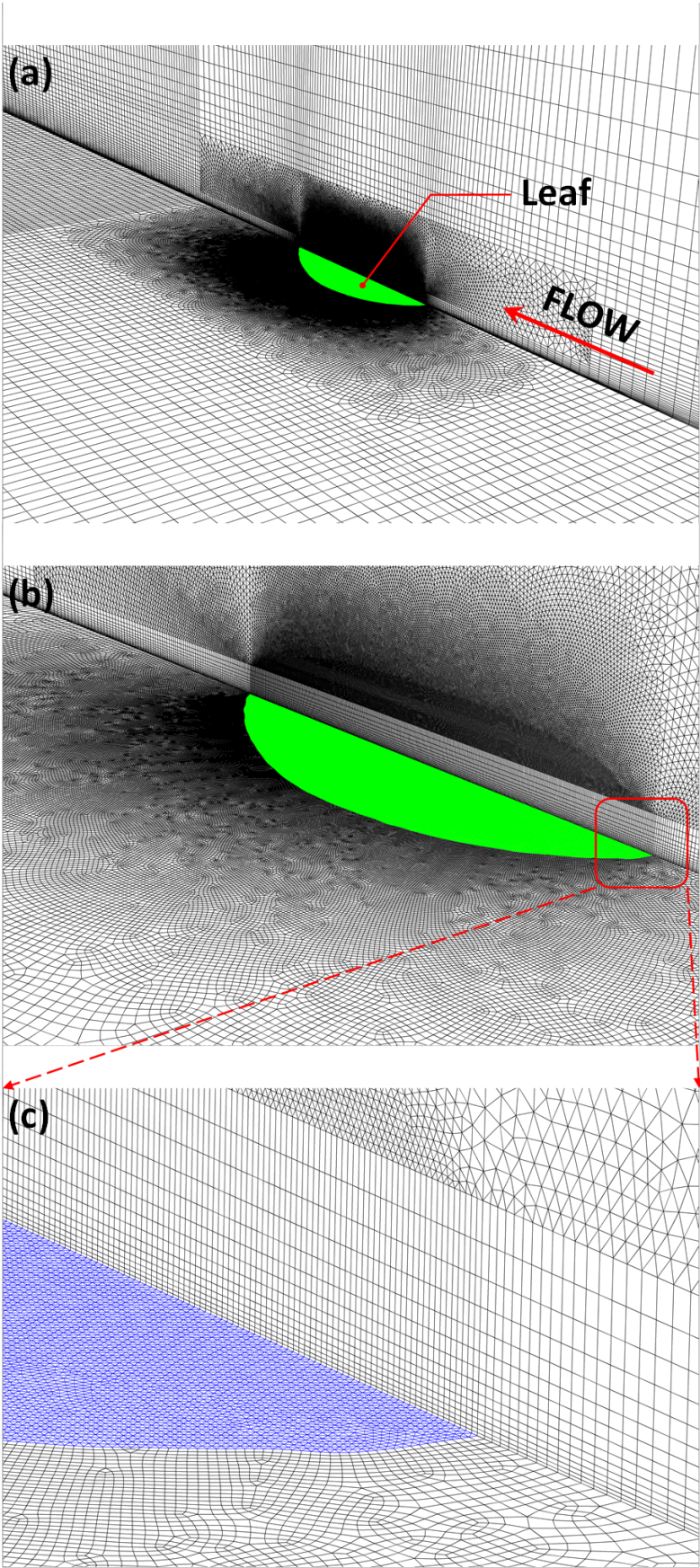
Fig. S3. Spatial discretisation: grid sensitivity analysis.

The grid was that was used in the simulations contained 5.88×10^6 three-dimensional cells. This grid was a result from a dedicated grid sensitivity analysis on multiple grids. The results are shown in the graph below. Here the averaged shear stress at the leaf surface and the average mass flux from the leaf surface are represented as a function of the different grids, as indicated by the number of cells in each grid. The scaled value of these variables is plotted, i.e. they are normalised by the "exact" value obtained from Richardson extrapolation on the three coarsest grids (see Roache, 1994; Franke *et al.*, 2007). As can be seen, the grid that was used in the study (5.88 million cells) agrees very well with the Richardson-extrapolated value, leading to a calculated spatial discretisation error of below 0.1% for both the shear stress and the mass flux at the leaf surface. Furthermore, it can be seen that the coarsest grid is already quite close to the exact solution, i.e. differences below 3%.