

Random Forest Algorithm Improves Detection of Physiological Activity Embedded within Reflectance Spectra Using Stomatal Conductance as a Test Case

Snir Vitrack-Tamam, Lilach Holtzman, Reut Dagan, Shai Levy, Yuval Tadmor, Tamir Azizi, Onn Rabinovitz, Amos Naor and Oded Liran

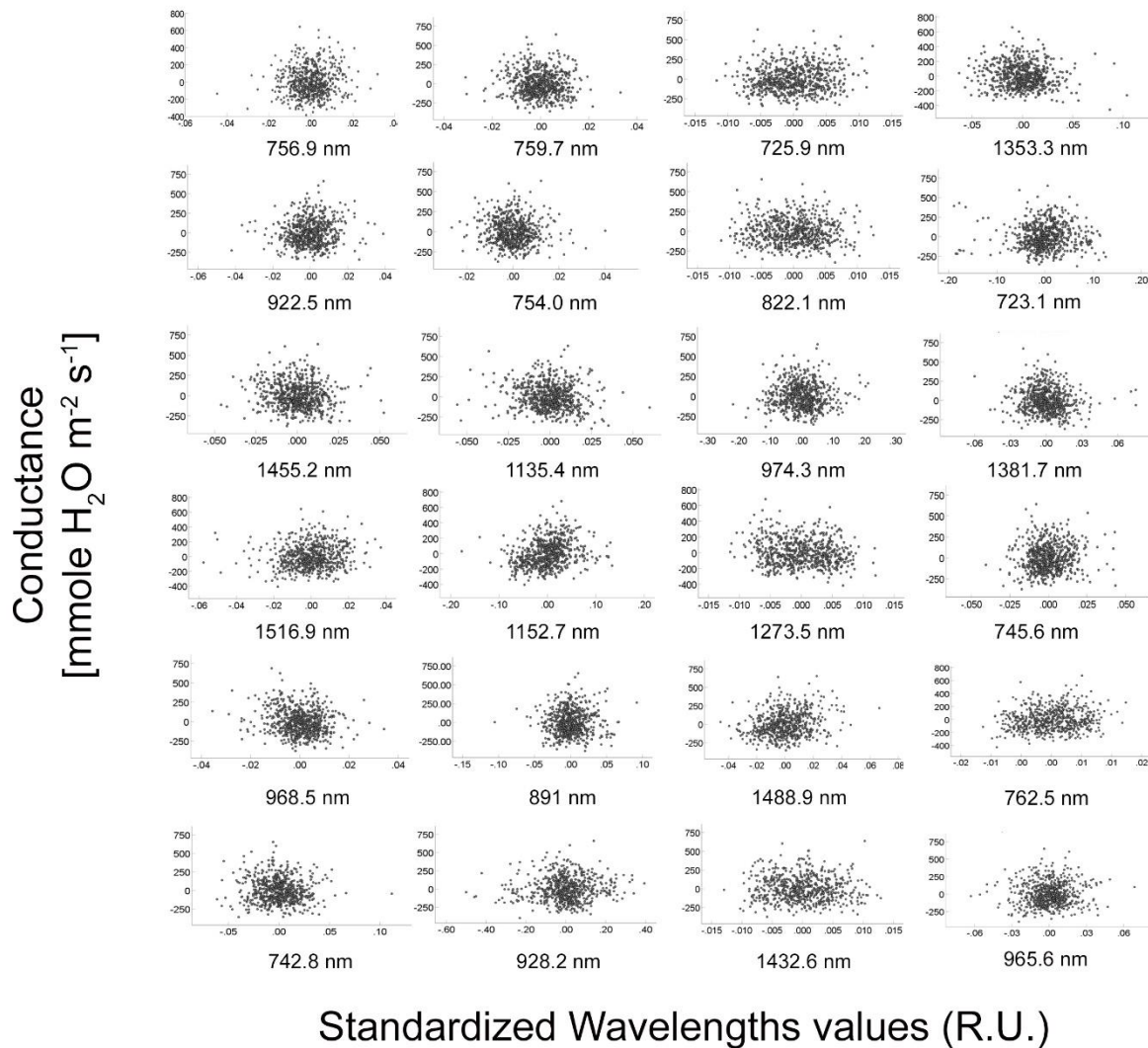


Figure S1. Multiple Linear Regression (MLR) partial correlations between each of the 24 wavelengths selected by the Random Forest algorithm and measured stomatal conductance. The wavelength values were checked for partial linear correlation as a prerequisite for MLR. Yet, no linear relation (or very faint) can be seen in the panels.

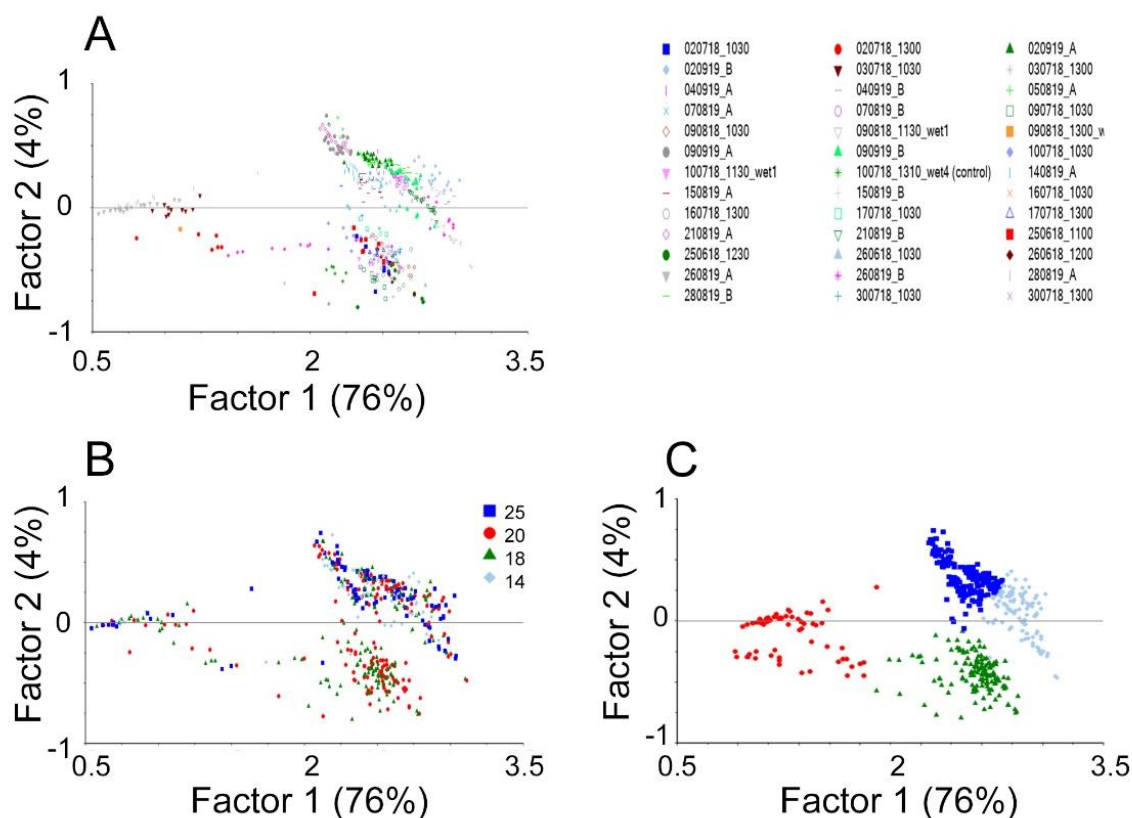


Figure S2. Representations of visual cluster analysis within the scores plot of the Partial Least Squares Regression algorithm during model construction on of stomatal index of a cotton plant. **(A)** Dates of the experiment. Annotation differs due to different technicians' data acquisition along the years. A/B stand for 10:30 AM/ ~12:30 PM; Wet – Samples after dehydration which received irrigation for 24 hours before sampling; **(B)** Water potential treatments (Bar). **(C)** K- means clustering identifies four clusters in the data by calculating the Euclidean squared distance.