Plants adapt to survive under variety of environmental conditions by changing some traits. Also, their emissivity influences how much energy they re-radiate to the environment. Subtle changes in leaf traits could affect its radiation. Some research has shown that emissivity spectra of thermal radiation can be associated with leaf surface structure aspects. Therefore, leaf anatomical traits probably correlate with thermal emissivity.

**Leaf emissivity spectrum**

The Directional Hemispherical Reflectance (DHR) spectrum of leaf was measured between 1.4-20µm by using Bruker VERTEX 70 FTIR spectrometer. And based on Kirchhoff’s law, DHR spectrum was converted to emissivity spectrum by ε=(1-R).

**Measuring plant thermal emissivity**

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**So... what is the correlation coefficient between leaf emissivity and anatomical traits?**

The correlation coefficient between leaf emissivity and anatomical traits was calculated using Pearson's correlation coefficient. The results showed that there was a positive correlation between emissivity and vein area, stomata area, and top membrane thickness, while there was a negative correlation between emissivity and vein diameter and stomata density.