# Supplementary

**Table S2:** Spectral variables derived from AISA DUAL image spectra and corresponding band number after removal of atmospheric water absorption & zero variance channels

| Spectral Variables | Reference | Band Number |
|---|---|---|
| **Continuous Spectrum Transformation** | | |
| Reflectance | | 1–282 |
| Continuum Removal | [1] | 283–562 |
| Savitzky-Golay Derivation | [2] | 563–844 |
| **Vegetation Indices** | | |
| *Plant Water State* | | |
| Wetness Index | WI [2] | 845 |
| Normalized Differenced Wetness Index | NDWI [4] | 846 |
| Normalized Differenced Wetness Index 2 | NDWI 2 [5] | 847 |
| Moisture Stress Index | MSI [6] | 848 |
| Disease Water Stress Index | DSWI [7] | 849 |
| Leaf Water Content | LWC [8] | 850 |
| *Chlorophyll Absorption* | | |
| Leaf Chlorophyll Index | LCI [9] | 851 |
| Transformed Chlorophyll Absorption Ratio | TCARI [10] | 852 |
| Optimized Soil Adjusted Vegetation Index | TCARI/OSAVI [11] | 853 |
| Maccioni | Maccioni [12] | 854 |
| Triangular Chlorophyll Index | TCI [13] | 855 |
| MERIS Terrestrial Chlorophyll Index | MTCI [14] | 856 |
| *Pigment Absorption* | | |
| Structure Intensive Pigment Index | SIPI [15] | 857 |
| Photochemical Reflectance Index | PRI [15] | 858 |
| Chlorophyll Reflection Index | CRI [16] | 859 |
| Anthocyanin Reflectance Index | ARI [16] | 860 |
| Plant Senescence Reflectance Index | PSRI [17] | 861 |
| Relative Greenness Index | RGI [18] | 862 |
| *Cellulose Absorption* | | |
| Cellulose Absorption Index | CAI [19] | 863 |
| *Lignin Absorption* | | |
| Normalized Difference Lignin Index | NDLI [20] | 864 |
| *Nitrogen Absorption* | | |
| Normalized Difference Nitrogen Index | NDNI [20] | 865 |
| Normalized Difference 1510 Ratio | NRI1510 [21] | 866 |
| Red Edge Inflection Point | REIP [21] | 867 |
| **Band Depth Normalized Absorption Features** | | |
| Reflectance 408–Reflectance 518 | [22] | 868–883 |
| Reflectance 550–Reflectance 750 | | 884–925 |
| Reflectance 920–Reflectance 1000 | | 926–939 |
| Reflectance 1116–Reflectance 1284 | | 940–965 |
| Reflectance 1634–Reflectance 1786 | [23] | 966–981 |
| Reflectance 2006–Reflectance 2196 | | 982–1011 |
| Reflectance 2222–Reflectance 2378 | | 1012–1035 |

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