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Supplementary Materials

Non–Invasive Assessment, Classification, and Prediction of Biophysical Parameters Using Reflectance Hyperspectroscopy

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Table S1. Vegetation indices parameters applied for *Nicotiana tabacum* L. leaves of plants grown in high irradiance (full light) and low light (8.5% of full light) environments and submitted to a distinct gibberellin regime.

Index	Equation	Reference
$NDVI_{680}$ = Normalized Difference Vegetation Index ϱ680	$(R_{800}-R_{680})/(R_{800}+R_{680})$	[71]
$NDVI_{750}$ = Normalized Difference Vegetation Index ϱ750	$(R_{750}-R_{705})/(R_{750}+R_{705})$	[71]
SR_{680} = Simple Ratio Index ϱ680	(R_{800}/R_{680})	[71]
SR_{705} = Simple Ratio Index ϱ705	$(R_{750})/(R_{705})$	[95]
mSR_{705} = Modified Normalized Simple Ratio ϱ705	$(R_{750}-R_{445})/(R_{705}+R_{445})$	[96]
$mNDVI_{750}$ = Modified Normalized Difference Vegetation Index ϱ750	$(R_{750}-R_{705})/(R_{750}+R_{705}-2xR_{445})$	[97]
RARS = Ratio Analysis of Reflectance Spectra	$(R_{746})/(R_{513})$	[98]
Achl = Absorption of Chlorophyll Index	$(R_{550})/(R_{500})$	[99]
BNb = Index for Chlorophyll Content	$(R_{800})/(R_{550})$	[99]
PVR = Normalized Difference Photosynthetic	$(R_{550}-R_{650})/(R_{550}+R_{650})$	[97]
PSND = Pigment Specific Normalized Difference	$(R_{800}-R_{470})/(R_{800}+R_{470})$	[100]
PSSRa = Pigment Specific Simple Ratio Chl *a*	$(R_{800})/(R_{680})$	[98]
PSSRb = Pigment Specific Simple Ratio Chl *b*	$(R_{800})/(R_{635})$	[95]
PSSRc = Pigment-specific Simple Ratio	$(R_{800})/(R_{500})$	[95]
PSRI = Plant Senescence Reflectance Index	$(R_{680}-R_{500})/(R_{750})$	[97]
PSRI2 = Plant Senescence Reflectance Index 2	$(R_{672})/(R_{550}+R_{708})$	[97]
MSI = Moisture Stress Index	(R_{1650}/R_{830})	[99]
PRI = Photochemical Reflectance Index	$(R_{530}-R_{570})/(R_{530}+R_{570})$	[101]
FR = Fluorescence Ratio	$(R_{690})/(R_{740})$	[102]
WBI = Water Band Index	$(R_{900})/(R_{970})$	[103]
DSWI = Disease-Water Stress Index	$(R_{802}+R_{547})/(R_{1657}+R_{682})$	[97]
DSWI-5 = Disease-Water Stress Index 5	$(R_{800}-R_{550})/(R_{1660}+R_{680})$	[97]

CRI1 = Carotenoid Reflectance Index 1	$(1/R_{510})-(1/R_{550})$	[98]
CRI2 = Carotenoid Reflectance Index 2	$(1/R_{510})-(1/R_{700})$	[71]
ARI1 = Anthocyanin Reflectance Index	$(1/R_{550})-(1/R_{700})$	[100]
ARI2 = Anthocyanin Reflectance Index 2	R_{800} x $((1/R_{550})-(1/R_{700}))$	[71]
FRI = Flavonol Reflectance Index	R_{800} x $((1/R_{410})-(1/R_{460}))$	[99]
VOG1 = Vogelmann Index 1	$(R_{740})/(R_{720})$	[99]
VOG2 = Vogelmann Index 2	$(R_{734}-R_{747})/(R_{715}+R_{726})$	[100]
SIPI = Structurally Insensitive Pigment Index	$(R_{800}-R_{445})/(R_{800}-R_{680})$	[104]
CAI1 = Cellulose Absorption Index 1	100 x $(0.5(R_{2030}+R_{2210})-R_{2100}))$	[74]
CAI2 = Cellulose Absorption Index 2	0.5 x $(R_{2020}+R_{2220})-R_{2100}))$	[74]
NDLI = Normalized Difference Lignin Index	$[\log(1/R_{1754})-\log(1/R_{1680})]/[\log(1/R_{1754})+\log(1/R_{1680})]$	[78]
NDNI = Normalized Difference Nitrogen Index	$[\log(1/R_{1510})-\log(1/R_{1680})]/[\log(1/R_{1510})+\log(1/R_{1680})]$	[78]

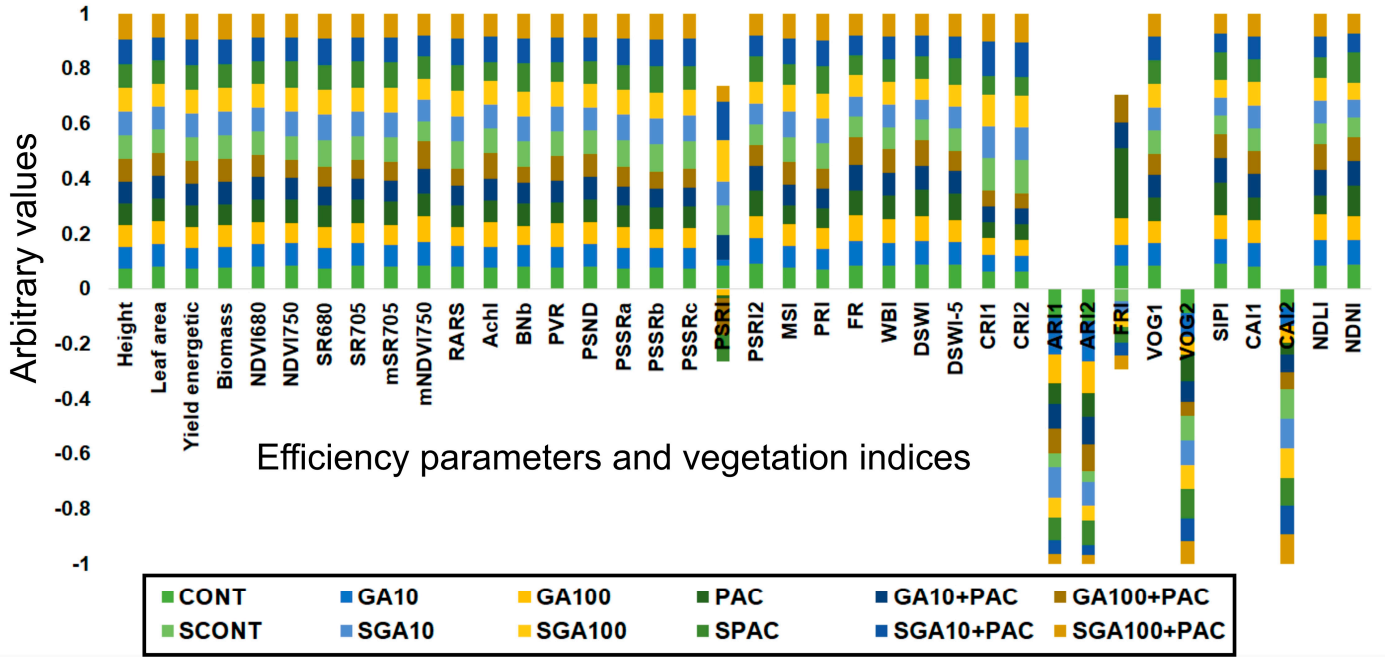

Figure S1. Vegetation index parameters calculated for arbitrary values (%) on *Nicotiana tabacum* L. leaves of plants grown in high irradiance (full light) and low-light (8.5% of full light) environments and submitted to distinct gibberellin regimes. For abbreviations, see Figure 1 and Table S1.

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