Supplementary Table S1. Vegetation indices calculated in this study.

	Abbr	Name	Formula	References
1	ARI	Anthocyanin Reflectance Index	$(1/R_{550}) - (1/R_{700})$	[41]
2	Boochs	Boochs index	D_{703}	[45]
3	Boochs2	Boochs index 2	D_{720}	[45]
4	CARI	Chlorophyll Absorption Ratio Index	$R_{700} \times abs(a \times 670 + R_{670} + b) / R_{670} \times (a2 + 1) \times 0.5$ $a = (R_{700} \times R_{550}) / 150$, $b = R_{550} - (a \times 550)$	[46]
5	Carter2	Carter index 2	R_{695} / R_{760}	[47]
6	Carter3	Carter index 3	R_{605} / R_{760}	[47]
7	Carter4	Carter index 4	R_{710} / R_{760}	[47]
8	Carter5	Carter index 5	R_{695} / R_{670}	[47]
9	Carter6	Carter index 6	R_{550}	[47]
10	CCI	Chlorophyll / carotenoid index	$(R_{528} - R_{645}) / (R_{528} + R_{645})$	[23]
11	CI	Chlorophyll Index	$R_{675} \times R_{690} / R^2_{683}$	[48]
12	CI2	Coloration Index 2	$R_{760} / R_{700} - 1$	[49]
13	ClAInt (CAI)	Chlorophyll Absorption Integral	$\int_{600nm}^{735nm} R$	[50]
14	CRI1	Carotenoid Reflectance Index 1	$1 / R_{515} - 1 / R_{550}$	[49]
15	CRI2	Carotenoid Reflectance Index 2	$1 / R_{515} - 1 / R_{770}$	[49]
16	CRI3	Carotenoid Reflectance Index 3	$1 / R_{515} - 1 / R_{550} \times R_{770}$	[49]
17	CRI4	Carotenoid Reflectance Index 4	$1 / R_{515} - 1 / R_{700} \times R_{770}$	[49]
18	D1	Derivative index 1	D_{730} / D_{706}	[48]
19	D2	Derivative index 2	D_{705} / D_{722}	[48]
20	Datt	Datt index	$(R_{850} - R_{710}) / (R_{850} - R_{680})$	[51]
21	Datt2	Datt index 2	R_{850} / R_{710}	[51]
22	Datt3	Datt index 3	D_{754} / D_{704}	[51]
23	Datt4	Datt index 4	$R_{672} / (R_{550} \times R_{708})$	[38]
24	Datt5	Datt index 5	R_{672} / R_{550}	[38]
25	Datt6	Datt index 6	$R_{860} / R_{550} \times R_{708}$	[38]
26	DD	Double Difference Index	$(R_{749} - R_{720}) - (R_{701} - R_{672})$	[52]
27	DDn	New Double Difference Index	$2 \times (R_{710} - R_{660} - R_{760})$	[52]
28	DPI	Double Peak Index	$D_{688} \times D_{710} / D^2_{697}$	[48]
29	DWSI4	Disease water stress index 4	R_{550} / R_{680}	[39]
30	EGFN	Edge green first derivative normalized difference	$(\max(D_{650:750}) + \max(D_{500:550})) / (\max(D_{650:750}) + \max(D_{500:550}))$	[53]
31	EGFR	Edge green first derivative ratio	$\max(D_{650:750}) / \max(D_{500:550})$	[53]
32	EVI	Enhanced Vegetation Index	$2.5 \times ((R_{800} - R_{670}) / (R_{800} - 6 \times R_{670} - 7.5 \times R_{475} + 1))$	[54]
33	GI	Greenness Index	R_{554} / R_{677}	[40]
34	Gitelson	Gitelson index	$1 / R_{700}$	[55]
35	Gitelson2	Gitelson index 2	$(R_{750} - R_{800} / R_{695} - R_{740}) - 1$	[49]
36	GMI1	Gitelson and Merzlyak Index 1	R_{750} / R_{550}	[49]
37	GMI2	Gitelson and Merzlyak Index 2	R_{750} / R_{700}	[49]

38	Green NDVI	Green Normalized Difference Vegetation Index	$(R_{800} - R_{550}) / (R_{800} + R_{550})$	[56]
39	LSI	Light Stress Index	$mean(R_{666:682}) / mean(R_{552:594})$	[27]
40	LSI_{Red}	Red Light Stress Index	R_{674} / R_{654}	This study
41	LSI_{Norm}	Normalized Light Stress Index	$(R_{674} - R_{654}) / (R_{674} + R_{654})$	This study
42	Maccioni	Maccioni index	$(R_{780} - R_{710}) / (R_{780} - R_{680})$	[57]
43	MCARI	Modified Chlorophyll Absorption in Reflectance Index	$((R_{700} - R_{670}) - 0.2 \times (R_{700} - R_{550})) \times (R_{700} - R_{670})$	[58]
44	MCARI2	Modified Chlorophyll Absorption in Reflectance Index 2	$((R_{700} - R_{670}) - 0.2 \times (R_{700} - R_{550})) \times (R_{700} / R_{670})$	[58]
45	$modPRI_{515/550}$	Modified Photochemical Reflectance Index	$(R_{515}-R_{550})/(R_{515}+R_{550})$	[26]
46	MPRI	Modified Photochemical Reflectance Index	$(R_{515} - R_{530}) / (R_{515} + R_{530})$	[59]
47	MSAVI	Modified Soil Adjusted Vegetation Index	$0.5 \times (2 \times R_{800} + 1 - ((2 \times R_{800} + 1)2 - 8 \times (R_{800} - R_{670}))0.5)$	[60]
48	mSR2	modified Simple Ratio 2	$(R_{750} / R_{705}) - 1 / (R_{750} / R_{705} + 1) \times 0.5$	[61]
49	MTCI	MERIS Terrestrial Chlorophyll Index	$(R_{754} - R_{709}) / (R_{709} - R_{681})$	[62]
50	MTVI	Modified Triangular Vegetation Index	$1.2 \times (1.2 \times (R_{800} - R_{550}) - 2.5 \times (R_{670} - R_{550}))$	[63]
51	NDVI	Normalized Difference Vegetation Index	$(R_{800} - R_{680}) / (R_{800} + R_{680})$	[64]
52	NDVI2	Normalized Difference Vegetation Index 2	$(R_{750} - R_{705}) / (R_{750} + R_{705})$	[65]
53	NDVI3	Normalized Difference Vegetation Index 3	$(R_{682} - R_{553}) / (R_{682} + R_{553})$	[66]
54	OSAVI	Optimized Soil Adjusted Vegetation Index	$(1 + 0.16) \times (R_{800} - R_{670}) / (R_{800} + R_{670} + 0.16)$	[67]
55	OSAVI2	Optimized Soil Adjusted Vegetation Index 2	$(1 + 0.16) \times (R_{750} - R_{705}) / (R_{750} + R_{705} + 0.16)$	[68]
56	RARS	Ratio Analysis of Reflectance Spectra	R_{746} / R_{513}	[69]
57	PRI	Photochemical Reflectance Index	$(R_{531} - R_{570}) / (R_{531} + R_{570})$	[70]
58	PRI_norm	normalized PRI	$PRI \times (-1) / (RDVI \times R_{700} / R_{670})$	[71]
59	PRI*CI2	Photochemical Reflectance Index × Coloration Index 2	$PRI \times CI2$	[72]
60	PSRI	Plant senescence reflectance index	$(R_{678} - R_{500}) / R_{750}$	[73]
61	PSSR	Pigment specific simple ratio	R_{800} / R_{635}	[74]
62	PSND	Pigment specific normalised difference	$(R_{800} - R_{470}) / (R_{800} - R_{470})$	[74]
63	RDVI	Renormalized Difference Vegetation Index	$(R_{800} - R_{670}) / (R_{800} + R_{670})0.5$	[75]
64	REP_Li	Red-edge position linear interpolation	$700 + 40 \times ((Rre - R_{700})/(R_{740} - R_{700})$ $Rre = (R_{670} - R_{780}) / 2$	[76]
65	SAVI	Soil Adjusted Vegetation Index	$(1 + L) / (R_{800} - R_{670}) / (R_{800} + R_{670} + L)$	[77]
66	SPVI	Spectral Polygon Vegetation Index	$0.4 \times 3.7 \times (R_{800} - R_{670}) - 1.2 \times ((R_{530} - R_{670})2) \times 0.5$	[78]
67	SR	Simple Ratio	R_{800}/R_{680}	[79]
68	SR2	Simple Ratio 2	R_{752}/R_{690}	[80]

69	SR4	Simple Ratio 4	R_{700}/R_{670}	[81]
70	SR5	Simple Ratio 5	R_{675}/R_{700}	[69]
71	SR6	Simple Ratio 6	R_{750}/R_{710}	[82]
72	SR8	Simple Ratio 8	R_{515} / R_{550}	[83]
73	Sum_Dr1	Sum of the first derivative reflectance amplitudes between 626 and 795 nm	$\sum_{i=626}^{795} D1_i$	[84]
74	Sum_Dr2	Sum of the first derivative reflectance amplitudes between 680 and 780 nm	$\sum_{i=680}^{780} D1_i$	[85]
75	TCARI	Transformed Chlorophyll Absorbtion Ratio	$3 \times ((R_{700} - R_{670}) - 0.2 \times (R_{700} - R_{550}) \times (R_{700} / R_{670}))$	[86]
76	TCARI/OSAVI	Transformed Chlorophyll Absorbtion Ratio / Optimized Soil Adjusted Vegetation Index	TCARI/OSAVI	[86]
77	TCARI2	Transformed Chlorophyll Absorbtion Ratio 2	$3 \times ((R_{750} - R_{705}) - 0.2 \times (R_{750} - R_{550}) \times (R_{750} / R_{705}))$	[68]
78	TCARI2/OSAVI2	Transformed Chlorophyll Absorbtion Ratio 2 / Optimized Soil Adjusted Vegetation Index 2	TCARI2/OSAVI2	[68]
79	TGI	Triangle greenness index	$-0.5 \times (190 \times (R_{670} - R_{550}) - 120 \times (R_{670} - R_{480}))$	[87]
80	TVI	Transformed Vegetation Index	$0.5 \times (120 \times (R_{750} - R_{550}) - 200 \times (R_{670} - R_{550}))$	[88]
81	Vogelmann	Vogelmann index 1	R_{740} / R_{720}	[89]
82	Vogelmann2	Vogelmann index 2	$(R_{734} - R_{747}) / (R_{715} + R_{726})$	[89]
83	Vogelmann3	Vogelmann index 3	D_{715} / D_{705}	[89]
84	Vogelmann4	Vogelmann index 4	$(R_{734} - R_{747}) / (R_{715} + R_{720})$	[89]

Note: R_{xxx}: reflectance at the wavelength "xxx"; D_{xxx}: first derivation of reflectance values at the wavelength "xxx".