Appendix A. Parameters of GaiaSky mini2 VN camera

Parameter	Value
Camera type	GaiaSky mini2 VN
Sensor	CCD Sony ICX674
Pixel (pixel $\times$ pixel)	$960 \times 1{,}040$
Resolution ratio (nm)	3.5
Focal distance (mm)	23
Band range (nm)	400 to 1,000
Number of bands	176
Weight (g)	1,500 (Camera and built-in controller)
Size (mm $\times$ mm $\times$ mm)	$226.5 \times 110 \times 105$

Appendix B. Wheat fractional vegetation cover (FVC) and extraction error (E_F) with two soil conditions and various extraction methods

Soil condition	Number	FVC					E_F			
		SVM	DPK-means	T0	T1	T2	DPK-mean	T0	T1	T2
	1	0.404	0.404	0.419	0.384	0.409	-0.001	0.036	-0.049	0.012
	2	0.421	0.403	0.415	0.385	0.407	-0.042	-0.013	-0.085	-0.033
	3	0.364	0.364	0.373	0.339	0.364	0.000	0.025	-0.067	0.000
	4	0.342	0.355	0.359	0.334	0.353	0.040	0.052	-0.023	0.032
	5	0.386	0.373	0.376	0.348	0.369	-0.035	-0.026	-0.099	-0.045
	6	0.436	0.436	0.451	0.414	0.440	0.001	0.034	-0.051	0.010
	7	0.425	0.402	0.415	0.385	0.407	-0.053	-0.022	-0.093	-0.042
	8	0.417	0.381	0.387	0.357	0.378	-0.087	-0.072	-0.145	-0.093
	9	0.389	0.375	0.402	0.362	0.390	-0.036	0.033	-0.070	0.002
	10	0.405	0.387	0.397	0.365	0.389	-0.042	-0.018	-0.097	-0.039
	11	0.406	0.394	0.402	0.370	0.394	-0.030	-0.008	-0.088	-0.030
	12	0.366	0.345	0.347	0.319	0.340	-0.059	-0.054	-0.129	-0.073
	13	0.443	0.407	0.426	0.385	0.414	-0.081	-0.039	-0.132	-0.066
	14	0.378	0.378	0.395	0.357	0.384	-0.001	0.044	-0.057	0.015
	15	0.341	0.350	0.350	0.319	0.342	0.026	0.026	-0.065	0.001
Dry soil	16	0.393	0.389	0.389	0.355	0.380	-0.011	-0.011	-0.096	-0.034
	17	0.338	0.332	0.330	0.303	0.323	-0.018	-0.023	-0.104	-0.044
	18	0.439	0.407	0.426	0.385	0.414	-0.072	-0.029	-0.123	-0.057
	19	0.512	0.488	0.504	0.473	0.496	-0.046	-0.015	-0.076	-0.031
	20	0.341	0.351	0.358	0.331	0.350	0.029	0.048	-0.030	0.026
	21	0.465	0.447	0.456	0.420	0.447	-0.039	-0.019	-0.097	-0.039
	22	0.434	0.434	0.442	0.407	0.433	0.000	0.019	-0.062	-0.003
	23	0.393	0.411	0.423	0.388	0.413	0.048	0.077	-0.012	0.051
	24	0.508	0.490	0.504	0.473	0.496	-0.037	-0.008	-0.070	-0.024
	25	0.479	0.447	0.455	0.425	0.447	-0.068	-0.051	-0.112	-0.068
	26	0.475	0.446	0.455	0.425	0.446	-0.060	-0.043	-0.104	-0.060
	27	0.387	0.382	0.343	0.315	0.336	-0.013	-0.114	-0.188	-0.133
	28	0.433	0.444	0.447	0.416	0.439	0.026	0.031	-0.040	0.013
	29	0.300	0.299	0.296	0.268	0.288	-0.001	-0.013	-0.108	-0.039
	30	0.462	0.438	0.441	0.411	0.433	-0.052	-0.047	-0.112	-0.064
	31	0.478	0.504	0.522	0.475	0.510	0.054	0.091	-0.008	0.066
	32	0.476	0.451	0.452	0.423	0.445	-0.052	-0.049	-0.112	-0.065
	33	0.407	0.439	0.442	0.413	0.434	0.081	0.086	0.015	0.067
	1	0.363	0.394	0.403	0.375	0.395	0.084	0.108	0.032	0.087
	2	0.340	0.363	0.369	0.343	0.362	0.066	0.083	0.009	0.063
	3	0.338	0.352	0.359	0.334	0.352	0.042	0.063	-0.011	0.042

	4	0.347	0.353	0.358	0.334	0.352	0.018	0.034	-0.037	0.015
	5	0.348	0.368	0.384	0.352	0.375	0.056	0.103	0.011	0.078
	6	0.417	0.421	0.435	0.403	0.426	0.010	0.043	-0.033	0.022
Wet soil	7	0.391	0.401	0.411	0.383	0.403	0.027	0.051	-0.020	0.032
	8	0.393	0.375	0.402	0.362	0.390	-0.046	0.022	-0.080	-0.009
	9	0.292	0.316	0.354	0.303	0.338	0.081	0.209	0.036	0.157
	10	0.291	0.320	0.357	0.307	0.344	0.098	0.227	0.054	0.182
	11	0.346	0.343	0.406	0.368	0.394	-0.009	0.172	0.064	0.140
	12	0.409	0.440	0.455	0.424	0.446	0.075	0.112	0.037	0.090
	13	0.431	0.439	0.448	0.419	0.440	0.018	0.039	-0.027	0.020
	14	0.336	0.367	0.365	0.342	0.359	0.091	0.086	0.019	0.068