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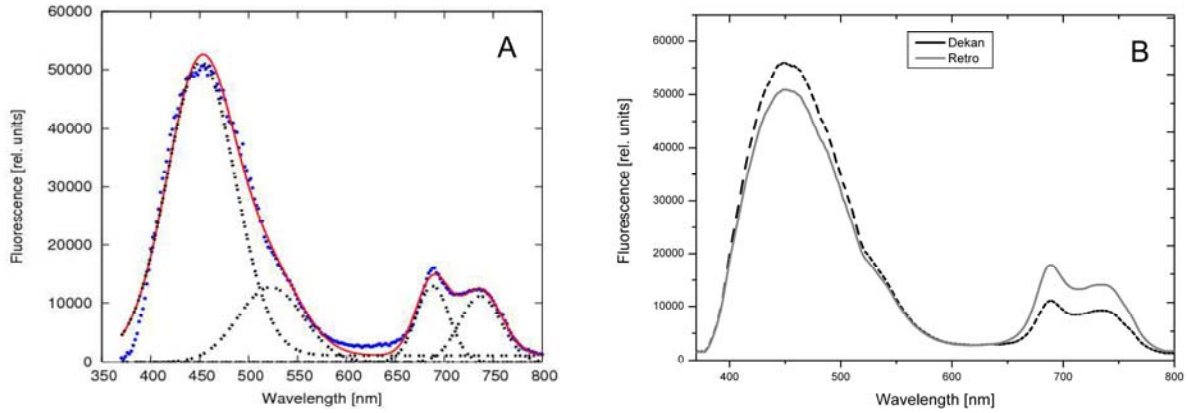

Fig. S1. (**A**) Deconvolution in Gaussian spectral components. Blue dotted line: measured fluorescence emission spectrum, black dotted lines: individual Gaussian spectral components of the fitted spectrum, red solid line: fitted spectrum. (**B**) Characteristic fluorescence emission spectrum (smoothed curves) of healthy wheat leaves (excitation at 337 nm) of the cultivars Dekan and Retro. The spectra were measured by means of a fluorescence spectrometer with nanosecond time resolution using a pulsed nitrogen laser as excitation source.

Table S1. Ratio of half–bandwidth between fluorescence peaks (F451, F522, F687 and F736) on control (c) and inoculated (i) wheat leaves of the cultivars Dekan (SD = 8) and Retro (SD = 3) at 2, 3, and 4 days after inoculation (dai)

Fluorescence ratio	Wheat cultivar	2 dai		3 dai		4 dai	
		c	i	c	i	c	i
F451/F522	Dekan	1.05[A]	1.04	1.04	1.03	1.03	1.02
	Retro	1.05[A]	1.03	1.05[A]	1.03	1.04[A]	1.01
F451/F687	Dekan	1.99	1.99	1.99	1.98	1.99	1.95
	Retro	2.07	2.06	2.06	2.05	2.05	2.03
F451/F736	Dekan	1.67	1.67	1.65	1.66	1.64[A]	1.66
	Retro	1.64	1.65	1.62[A]	1.65	1.61[A]	1.64
F522/F687	Dekan	1.89	1.91	1.92	1.91	1.94	1.92
	Retro	1.97	1.99	1.96[A]	2.00	1.98[A]	2.01
F522/F736	Dekan	1.59[A]	1.61	1.59	1.61	1.60[A]	1.63
	Retro	1.56	1.60	1.55[A]	1.61	1.56[A]	1.63
F687/F736	Dekan	0.84	0.84	0.83	0.84	0.83	0.85
	Retro	0.79	0.80	0.79[A]	0.80	0.79[A]	0.81

[A]Significant differences (ANOVA $P \leq 0.05$) between control (c) and inoculated (i) leaves for each cultivar and measuring day ($n = 6$ for control plants; $n = 8$ for inoculated plants).

Table S2. Ratio of amplitude to half–bandwidth from fluorescence (F451, F522, F687 and F736) on control (c) and inoculated (i) wheat leaves of the cultivars Dekan (SD = 8) and Retro (SD = 3) at 2, 3, and 4 days after inoculation (dai)

Fluorescence peak	Wheat cultivar	2 dai		3 dai		4 dai	
		c	i	c	i	c	i
F451	Dekan	1607	1585	1397	1454	1326[A]	1490
	Retro	1433	1423	1288	1355	1188[A]	1370
F522	Dekan	407	410	363[A]	393	348[A]	425
	Retro	378	375	356[A]	384	334[A]	399
F687	Dekan	503	493	503	480	528	486
	Retro	942[A]	718	906[A]	683	913[A]	681
F736	Dekan	394	382	397	372	413	349
	Retro	647[A]	528	640[A]	463	648[A]	439

[A]Significant differences (ANOVA $P \leq 0.05$) between control (c) and inoculated (i) leaves for each cultivar and measuring day ($n = 6$ for control plants; $n = 8$ for inoculated plants).

Table S3. Ratio of amplitudes between fluorescence peaks (F451, F522, F687, and F736) measured on control (c) and inoculated (i) wheat leaves of the cultivars Ritmo (SD = 8), Skalmeje (SD = 7), Aron (SD = 8), Esket (SD = 3), and Mirage (SD = 2) at 2, 3, and 4 days after inoculation (dai)

Fluorescence ratio	Wheat cultivar	2 dai		3 dai		4 dai	
		c	i	c	i	c	i
F451/F522	Ritmo	3.86	3.78	3.89[A]	3.77	3.84[A]	3.58
	Skalmeje	4.10[A]	3.97	4.02[A]	3.84	3.97	3.64
	Aron	–	–	3.36	3.30	–	–
	Esket	4.13[A]	4.00	3.97[A]	3.77	3.85[A]	3.65
	Mirage	–	–	3.58[A]	3.36	–	–
F451/F687	Ritmo	2.89	3.07	2.94	3.22	2.78[A]	3.33
	Skalmeje	3.85	4.39	3.66	4.29	3.46[A]	4.29
	Aron	–	–	3.12	3.19	–	–
	Esket	3.27	3.65	3.14[A]	3.83	2.92[A]	3.73
	Mirage	–	–	3.06	3.51	–	–
F451/F736	Ritmo	2.80	3.06	2.83[A]	3.2	2.64[A]	3.34
	Skalmeje	4.18	4.85	3.84[A]	4.66	3.56[A]	4.86
	Aron	–	–	3.32	3.41	–	–
	Esket	3.39	3.98	3.14[A]	4.39	2.91[A]	4.48
	Mirage	–	–	3.14	3.81	–	–
F522/F687	Ritmo	0.75	0.81	0.76[A]	0.85	0.73[A]	0.90
	Skalmeje	0.94	1.10	0.91[A]	1.16	0.87[A]	1.18
	Aron	–	–	0.93	0.97	–	–
	Esket	0.79	0.91	0.79[A]	1.02	0.76[A]	1.02
	Mirage	–	–	0.85	1.05	–	–
F522/F736	Ritmo	0.73	0.81	0.73[A]	0.8	0.69[A]	0.93
	Skalmeje	1.02[A]	1.22	0.96[A]	1.21	0.90[A]	1.33
	Aron	–	–	0.99	1.03	–	–
	Esket	0.82	0.99	0.79[A]	1.17	0.75[A]	1.23
	Mirage	–	–	0.88[A]	1.14	–	–
F687/F736	Ritmo	0.97[A]	1.00	0.96[A]	1.01	0.95[A]	1.03
	Skalmeje	1.09	1.11	1.05	1.09	1.03[A]	1.13
	Aron	–	–	1.06	1.07	–	–
	Esket	1.04[A]	1.09	1.00[A]	1.14	0.99[A]	1.19
	Mirage	–	–	1.03[A]	1.09	–	–

[A]Significant differences (ANOVA $P \leq 0.05$) between control (c) and inoculated (i) leaves for each cultivar and measuring day (n = 6 for control plants; n = 8 for inoculated plants).

Table S4. Ratio of half–bandwidth between fluorescence peaks (F451, F522, F687, and F736) on control (c) and inoculated (i) wheat leaves of the cultivars Ritmo (SD = 8), Skalmeje (SD = 7), Aron (SD = 8), Esket (SD = 3), and Mirage (SD = 3) at 2, 3, and 4 days after inoculation (dai)

Fluorescence ratio	Wheat cultivar	2 dai		3 dai		4 dai	
		c	i	c	i	c	i
F451/F522	Ritmo	1.05[A]	1.03	1.04	1.03	1.04[A]	1.03
	Skalmeje	1.05	1.04	1.04	1.03	1.03[A]	1.02
	Aron	–	–	1.04	1.04	–	–
	Esket	1.05	1.05	1.05[A]	1.03	1.04[A]	1.02
	Mirage	–	–	1.03[A]	1.02	–	–
F451/F687	Ritmo	2.06	2.06	2.05	2.05	2.06	2.05
	Skalmeje	2.08	2.07	2.07	2.06	2.07	2.04
	Aron	–	–	2.02	2.03	–	–
	Esket	2.11	2.09	2.09	2.08	2.09	2.08
	Mirage	–	–	2.04	2.03	–	–
F451/F736	Ritmo	1.62[A]	1.63	1.62	1.62	1.62[A]	1.62
	Skalmeje	1.64[A]	1.66	1.64[A]	1.65	1.63	1.64
	Aron	–	–	1.61	1.62	–	–
	Esket	1.65	1.65	1.64[A]	1.65	1.64	1.65
	Mirage	–	–	1.61	1.62	–	–
F522/F687	Ritmo	1.96[A]	2.00	1.97[A]	1.99	1.98	1.99
	Skalmeje	1.98	1.99	2.00	1.99	2.00	2.00
	Aron	–	–	1.95	1.96	–	–
	Esket	2.01	2.00	2.00	2.01	2.01	2.03
	Mirage	–	–	1.97	1.99	–	–
F522/F736	Ritmo	1.54[A]	1.58	1.55[A]	1.57	1.55[A]	1.58
	Skalmeje	1.56[A]	1.59	1.58	1.59	1.58	1.61
	Aron	–	–	1.55	1.56	–	–
	Esket	1.57	1.57	1.56[A]	1.60	1.57	1.61
	Mirage	–	–	1.56[A]	1.59	–	–
F687/F736	Ritmo	0.78[A]	0.78	0.79	0.79	0.79[A]	0.79
	Skalmeje	0.79[A]	0.80	0.79[A]	0.80	0.79[A]	0.81
	Aron	–	–	0.80	0.80	–	–
	Esket	0.78	0.79	0.78	0.79	0.78	0.79
	Mirage	–	–	0.79	0.80	–	–

[A]Significant differences (ANOVA $P \leq 0.05$) between control (c) and inoculated (i) leaves for each cultivar and measuring day (n = 6 for control plants; n = 8 for inoculated plants).

Table S5. Ratio of amplitude to half–bandwidth from fluorescence (F451, F522, F687, and F736) on control (c) and inoculated (i) wheat leaves of the cultivars Ritmo (SD = 8), Skalmeje (SD = 7), Aron (SD = 8), Esket (SD = 3), and Mirage (SD = 3) at 2, 3, and 4 days after inoculation (dai)

Fluorescence peak	Wheat cultivar	2 dai		3 dai		4 dai	
		c	i	c	i	c	i
F451	Ritmo	1280	1261	1338	1366	1251[A]	1354
	Skalmeje	1173	1202	1131	1162	1031	1155
	Aron	–	–	1324	1423	–	–
	Esket	1061[A]	1132	1030[A]	1204	958[A]	112
	Mirage	–	–	1430	1564	–	–
F522	Ritmo	332	334	344	362	326[A]	379
	Skalmeje	301	315	292	314	269[A]	324
	Aron	–	–	409	447	–	–
	Esket	270[A]	297	272[A]	330	258[A]	316
	Mirage	–	–	413	477	–	–
F687	Ritmo	881	827	908	858	902	843
	Skalmeje	644	578	650	568	621	557
	Aron	–	–	860	918	–	–
	Esket	697	663	695	666	692	648
	Mirage	–	–	965	918	–	–
F736	Ritmo	715	655	746[A]	671	749[A]	648
	Skalmeje	465	416	486[A]	417	477[A]	396
	Aron	–	–	643	684	–	–
	Esket	526	482	545	465	546[A]	435
	Mirage	–	–	741	672	–	–

[A]Significant differences (ANOVA $P \leq 0.05$) between control (c) and inoculated (i) leaves for each cultivar and measuring day (n = 6 for control plants; n = 8 for inoculated plants).

Table S6. Mean fluorescence lifetime at selected wavelength of control (c) and inoculated (i) leaves of cvs Ritmo (SD = 8), Skalmeje (SD = 7), Aron (SD = 8), Esket (SD = 3), and Mirage (SD = 2) at 2, 3, and 4 days after inoculation (dai)

Wavelength	Wheat cultivar	2 dai		3 dai		4 dai	
		c	i	c	i	c	i
410 nm	Ritmo	0.63	0.66	0.65	0.63	0.65	0.64
	Skalmeje	–	–	–	–	–	–
	Aron	–	–	–	–	–	–
	Esket	–	–	–	–	–	–
	Mirage	–	–	–	–	–	–
440 nm	Ritmo	0.67	0.70	0.70	0.70	0.66	0.67
	Skalmeje	–	–	–	–	–	–
	Aron	0.59	0.63	0.60	0.61	0.64	0.66
	Esket	0.67[A]	0.69	0.71	0.78	0.69[A]	0.87
	Mirage	0.57[A]	0.60	0.63	0.64	0.66	0.74
470 nm	Ritmo	0.83[A]	0.87	0.83[A]	0.87	0.82[A]	0.85
	Skalmeje	–	–	–	–	–	–
	Aron	–	–	–	–	–	–
	Esket	–	–	–	–	–	–
	Mirage	–	–	–	–	–	–
500 nm	Ritmo	1.01	1.04	1.05	1.07	1.02	1.04
	Skalmeje	0.99	1.01	1.00	1.01	1.09	1.03
	Aron	–	–	1.00	1.02	1.00	1.04
	Esket	1.03	1.01	1.05[A]	1.09	1.02[A]	1.10
	Mirage	–	–	0.94[A]	1.02	0.96[A]	1.05
530 nm	Ritmo	1.11[A]	1.15	1.12	1.15	1.15	1.15
	Skalmeje	1.08	1.09	1.11	1.12	1.09	1.10
	Aron	–	–	1.13	1.13	1.14	1.17
	Esket	1.13	1.17	1.13[A]	1.18	1.15[A]	1.23
	Mirage	–	–	1.05[A]	1.13	1.11[A]	1.18
560 nm	Ritmo	–	–	–	–	–	–
	Skalmeje	1.08	1.12	1.10[A]	1.20	1.16	1.20
	Aron	–	–	–	–	–	–
	Esket	1.14[A]	1.23	1.21	1.27	1.18[A]	1.34
	Mirage	–	–	–	–	–	–

[A]Significant differences (ANOVA $P \leq 0.05$; $n = 4$ for control plants; $n = 5$ for inoculated plants) between control (c) and inoculated (i) leaves for each cultivar and measuring day.