Table 1S

Field-specific information for 35 uniform fungicide trials conducted in Brazil during four seasons (2009 to 2012 harvest years) and summaries of the mean white mold incidence (INCchk) in non-treated check of the trial, maximum mean soybean yield (YLDmax), and maximum mean sclerotial production at harvest (SCLmax) in the trial (Meyer et al., 2012)

Study	Harvest Year	Municipality-State	Cultivar	Region	Elevation	INCchk (%)	YLDmax (kg ha^{-1})	SCLmax (g ha^{-1})
1	2009	Montividiu-GO	P98Y11	N	921	76	2265	2194
2	2009	São Miguel do Passa Quatro-GO	M 7908 RR	N	1031	76	2257	1331
3	2009	Silvânia-GO	CD 219 RR	N	1050	65	2839	5013
4	2009	Ponta Grossa-PR	BMX Potência RR	S	1021	17	1986	-
5	2009	Mauá da Serra-PR	BRS 282	S	1029	69	1893	6216
6	2009	Nova Ponte-MG	AN-8500	N	999	21	2476	8500
7	2010	Montividiu-GO	P98Y11	N	921	90.3	2460	2225
8	2010	Sao Miguel do Passa Quatro-GO	M 7908 RR	N	1027	39.4	3318	5653
9	2010	Água Fria-GO	M 7908 RR	N	891	37.7	3729	5092
10	2010	Campo Verde-MT	M 8230 RR	N	985	43.7	1833	461
11	2010	Nova Ponte-MG	M 8200	N	1005	16.5	2940	1804
12	2010	Uberlândia-MG	BRS Valiosa RR	N	947	32	2163	4370
13	2010	Pilar do Sul-SP	BRS 231	S	800	65	3490	-
14	2010	Mauá da Serra-PR	BRS 232	S	909	40.6	1941	2606
15	2010	Montividiu-GO	P98Y11	N	921	74.7	2511	1503
16	2010	São Miguel do Passa Quatro-GO	M 7908 RR	N	1027	36.9	3492	4771
17	2010	Silvânia-GO	Emgopa 313 RR	N	1050	21.7	2479	3528
18	2010	Água Fria-GO	M 7908 RR	N	891	31.6	3682	4240
19	2010	Campo Verde-MT	M 8230 RR	N	985	31.2	1706	480
20	2010	Uberlândia-MG	BRS Valiosa RR	N	947	31	1783.3	5850
21	2010	Mauá da Serra-GO	BMX Potência	S	909	33.4	2196	2160
22	2010	Ponta Grossa-PR	BMX Potência	S	1021	64.5	3779.3	6940
23	2010	Pilar do Sul-SP	BRS 231	S	800	40	4056	-
24	2011	Montividiu-GO	P98Y11	N	921	43.1	3013	2926
25	2011	São Miguel do Passa Quatro-GO	M 7908 RR	N	1027	31.28	2464	1736
26	2011	Silvânia-GO	BRS 8160 RR	N	1050	36.8	2935	4556
27	2011	Água Fria-GO	M 7639 RR	N	891	36	2847	9480
28	2011	Ponta Grossa-PR	BMX Ativa RR	S	1021	64.5	3652	9380
29	2011	Marilândia do Sul-PR	BMX Potência RR	S	868	15.4	2725	5700
30	2012	São Miguel do Passa Quatro-GO	M 7908 RR	N	1027	42.1	1986	3277
31	2012	Goianira-GO	M 7908 RR	N	737	34.7	2786	3618
32	2012	Uberlândia-MG	P98Y11	N	947	46.3	2792	4308
33	2012	Chapadão do Sul-MS	ST 810 RR	N	813	67.5	2646	-
34	2012	Ponta Grossa-PR	BMX Turbo RR	S	1021	20.5	2692	-
35	2012	Palmeira -PR	BMX Apolo RR	N	820	55	1451	-

Table S2

Pearson's correlation coefficients (r) and respective *P*-value; coefficients estimated by a simple linear regression model fitted to data at the study level; and estimated coefficients (best linear unbiased prediction (EBLUP) by a random-coefficients model fitted to data on the relationship between soybean yield (kg ha^{-1}) and white mold incidence (%) in 35 field trials conducted in Brazil with variable number of observations (*N*), or the mean of a specific fungicide treatment across four replicated plots in a randomized complete block design (Meyer et al., 2012)

Study code	N	Pearson's correlation statistics		Linear regression model coefficients (estimates)		Random coefficient model predictions (EBLUPs)	
		r	*P*-value	$\hat{\beta}_0$	$\hat{\beta}_1$	$\hat{b}_0$	$\hat{b}_1$
1	13	-0.9	0.0000	3329.14	-14.21	3359.80	-14.99
2	13	-0.815	0.0010	2682.47	-6.93	2735.26	-8.79
3	13	-0.957	0.0000	4017.13	-18.62	3999.82	-18.19
4	13	-0.614	0.0260	2814.08	-43.45	2605.86	-18.30
5	13	-0.747	0.0030	3317.10	-21.20	3252.14	-19.53
6	13	0.113	0.7140	2480.07	2.71	2651.30	-11.31
7	12	-0.846	0.0000	4297.62	-16.93	4257.28	-16.42
8	12	-0.774	0.0030	4025.20	-23.30	3995.86	-20.86
9	12	-0.663	0.0190	4135.76	-12.41	4153.23	-14.19
10	10	-0.56	0.0920	2530.01	-10.04	2608.98	-13.25
11	12	-0.455	0.1370	3284.00	-18.30	3279.81	-17.14
12	12	-0.828	0.0010	3147.20	-28.36	3105.41	-21.67
13	12	-0.571	0.0520	4569.56	-15.07	4575.49	-16.07
14	12	-0.477	0.1170	2726.61	-15.39	2738.61	-15.84
15	9	-0.872	0.0020	3690.21	-14.41	3731.23	-15.37
16	9	-0.905	0.0010	4377.65	-25.01	4331.92	-21.42
17	9	-0.284	0.4580	2602.09	-4.35	2678.83	-13.59
18	9	-0.784	0.0120	4328.06	-16.74	4333.46	-17.95
19	9	-0.945	0.0000	2604.17	-28.85	2412.65	-18.59
20	9	-0.936	0.0000	2912.80	-37.90	2772.70	-23.12
21	9	-0.858	0.0030	3215.90	-29.50	3029.52	-19.83
22	9	-0.866	0.0030	4672.29	-14.21	4673.66	-15.46
23	9	-0.626	0.0710	4710.65	-13.69	4742.29	-16.71
24	10	-0.945	0.0000	3710.10	-14.60	3727.79	-15.61
25	11	-0.839	0.0010	3470.60	-31.55	3322.88	-22.82
26	11	-0.92	0.0000	4524.94	-35.88	4406.82	-28.02
27	11	-0.668	0.0250	3724.22	-25.71	3675.86	-21.67
28	11	-0.861	0.0010	4923.14	-19.89	4888.95	-19.28
29	10	-0.556	0.0950	2977.04	-26.99	2920.69	-18.01
30	11	-0.767	0.0060	2427.80	-10.55	2467.05	-12.90
31	11	-0.845	0.0010	3942.49	-36.95	3737.74	-25.15
32	11	-0.431	0.1860	3542.41	-12.06	3600.94	-14.99
33	11	-0.298	0.3730	3176.57	-4.81	3223.88	-7.58
34	11	-0.724	0.0120	3231.47	-31.47	3131.07	-19.20
35	10	-0.692	0.0270	1760.062	-6.89	1821.06	-9.68

Table S3

Pearson's correlation coefficients (*r*) and their respective *P*-value; coefficients estimated by a simple linear regression model fitted to data at the study level; and estimated coefficients (best linear unbiased prediction (EBLUP) by a random-coefficients model fitted to data on the relationship between soybean yield (kg ha^{-1}) and sclerotial production (g ha^{-1}) in 29 field trials conducted in Brazil with variable number of observations (*N*), or the mean of a specific fungicide treatment across four replicated plots in a randomized complete block design (Meyer et al., 2012)

Study code	*N*	Pearson's correlation statistics		Linear regression model coef. (estimates)		Random coefficient estimated coef. (EBLUPs)	
		r	*P*-value	$\hat{\beta}_0$	$\hat{\beta}_1$	$\hat{b}_0$	$\hat{b}_1$
1	13	0.9129	<0.0001	-105.74	30.76	-315.72	36.10
2	13	0.8489	0.0002	66.23	15.82	-344.08	28.12
3	13	0.8442	0.0003	-996.70	99.37	-18.18	73.37
5	13	0.9272	<0.0001	-2027.39	115.21	-72.35	68.84
6	13	0.8246	0.0005	1176.63	406.97	2312.78	307.78
7	12	0.5456	0.0665	-667.18	20.49	-498.72	18.45
8	12	0.9205	<0.0001	191.37	163.72	586.96	136.32
9	12	0.6576	0.0201	793.27	128.54	657.38	133.32
10	10	0.8911	0.0005	-147.73	15.32	-408.24	27.25
11	12	0.66	0.0195	745.78	129.09	661.13	134.77
12	12	0.4916	0.1045	1943.04	114.79	1204.12	174.17
14	12	0.925	<0.0001	-335.50	64.07	-148.57	56.82
15	9	0.7179	0.0294	-206.72	18.59	-438.64	24.01
16	9	0.8977	0.001	933.00	108.66	607.38	127.56
17	9	0.9384	0.0002	-140.62	168.20	371.45	111.32
18	9	0.6355	0.0659	372.27	81.31	231.39	91.59
19	9	0.6659	0.0502	-231.89	19.44	-393.70	30.30
21	9	0.9471	0.0001	213.36	178.99	654.36	140.40
22	9	0.8712	0.0022	-291.98	71.42	-80.05	62.82
23	9	0.9945	<0.0001	-62.94	107.75	201.30	98.96
25	10	0.8297	0.003	-140.60	46.48	-192.39	49.86
26	11	0.909	0.0001	-509.12	58.03	-250.06	46.85
27	11	0.8678	0.0005	-421.97	149.63	309.19	111.12
28	11	0.8151	0.0022	1891.30	198.90	1501.42	215.63
29	11	0.8573	0.0007	571.05	107.92	413.32	111.05
30	10	0.9072	0.0003	222.05	280.89	978.87	173.73
31	11	0.795	0.0034	1043.23	61.32	356.66	97.21
32	11	0.8829	0.0003	-949.08	130.17	39.42	80.45
33	11	0.3722	0.2596	255.68	88.66	207.99	90.96

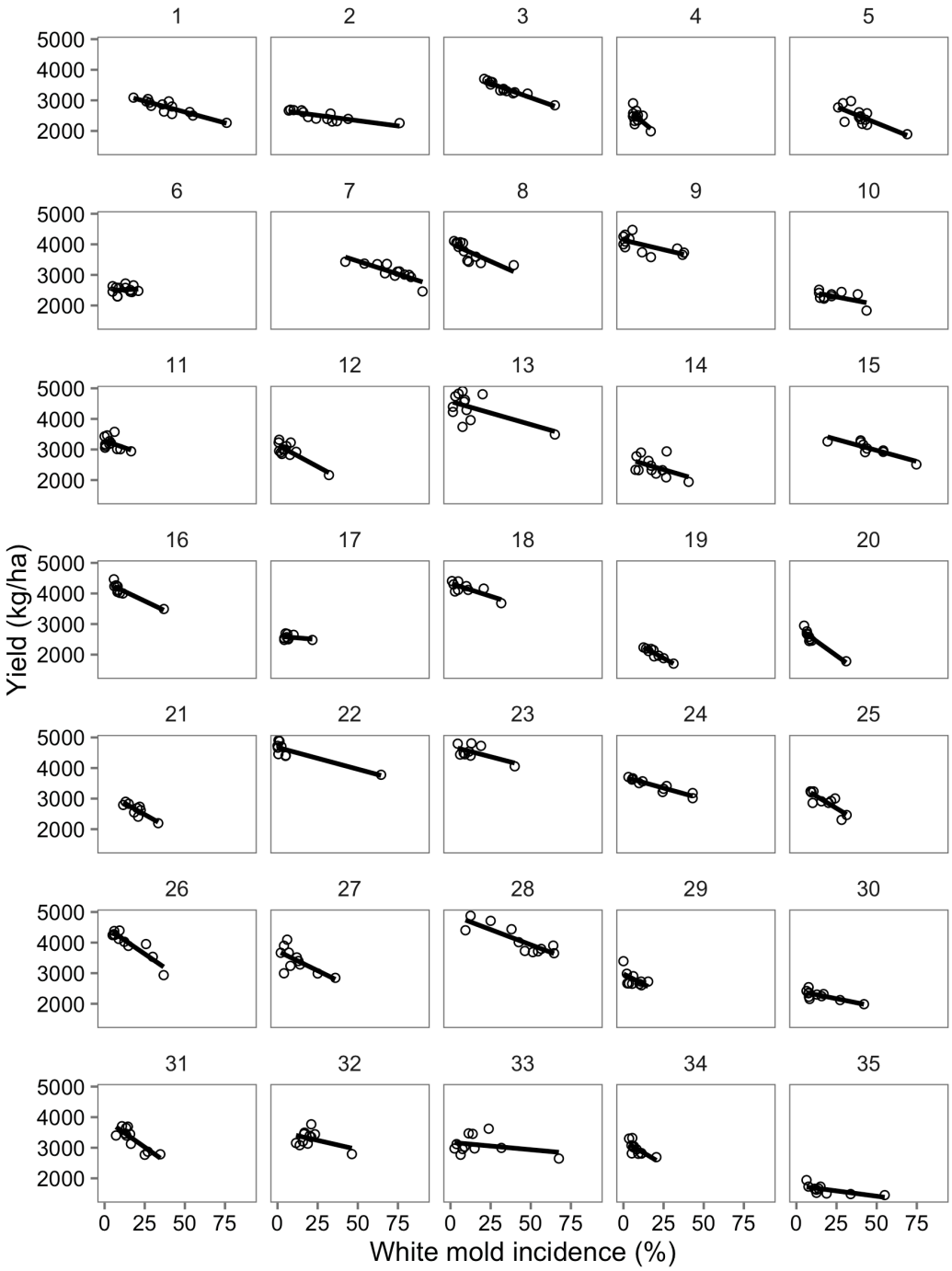

Figure S1 Observations and fit of a simple linear model for the relationship between soybean yield and white mold incidence across treatments (fungicide and one non-treated check) in 35 (coded as 1 to 35) independent uniform trials conducted in Brazil from 2008-09 to 2011-12 (data source: Meyer *et al.,* 2014).

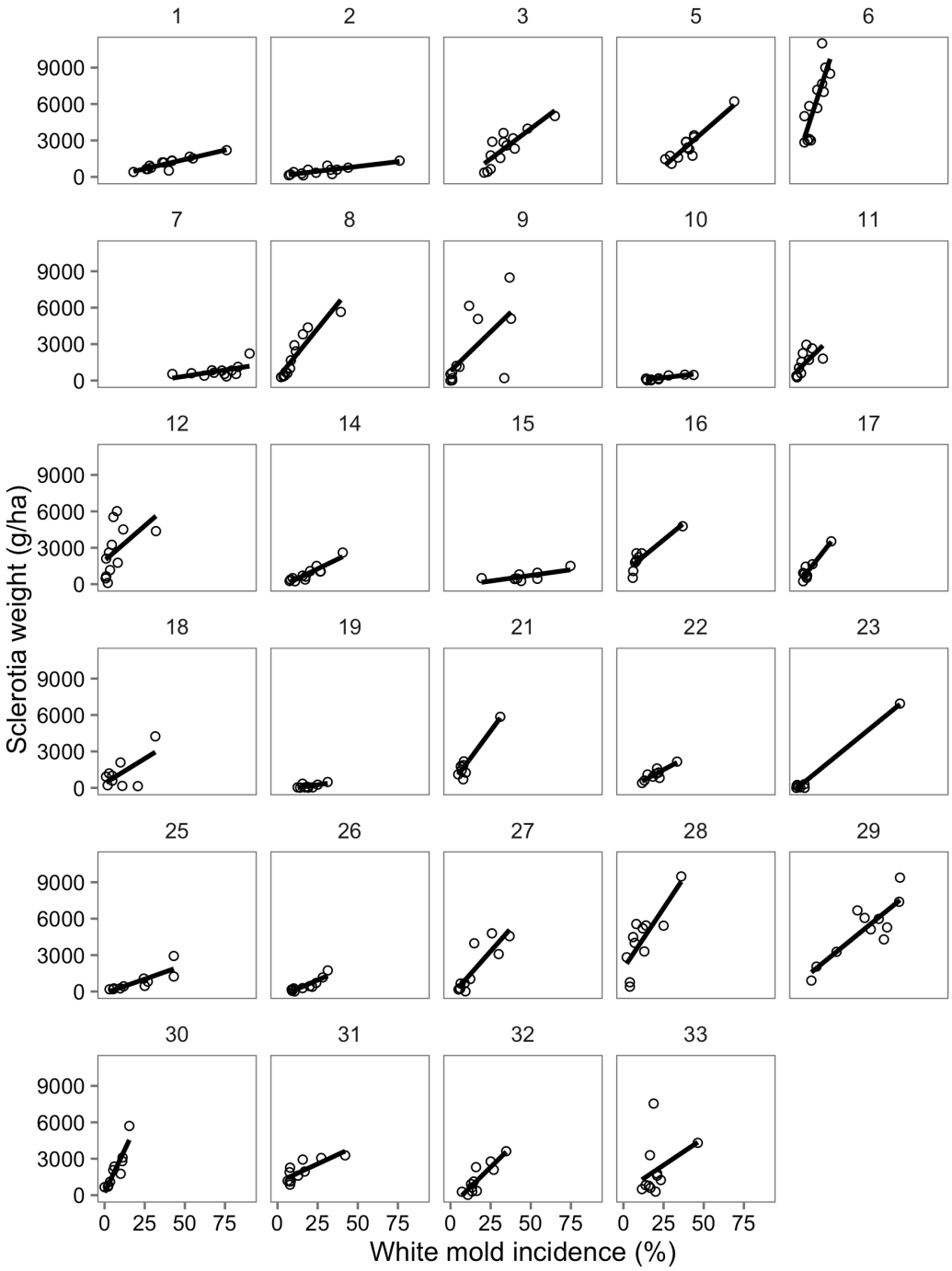

Figure S2 Observations and fit of a simple linear model for the relationship between sclerotial weight and white mold incidence across treatments (fungicide and one non-treated check) in 29 (coded as 1 to 33) independent uniform trials conducted in Brazil from 2008-09 to 2011-12 (data source: Meyer *et al*., 2014).

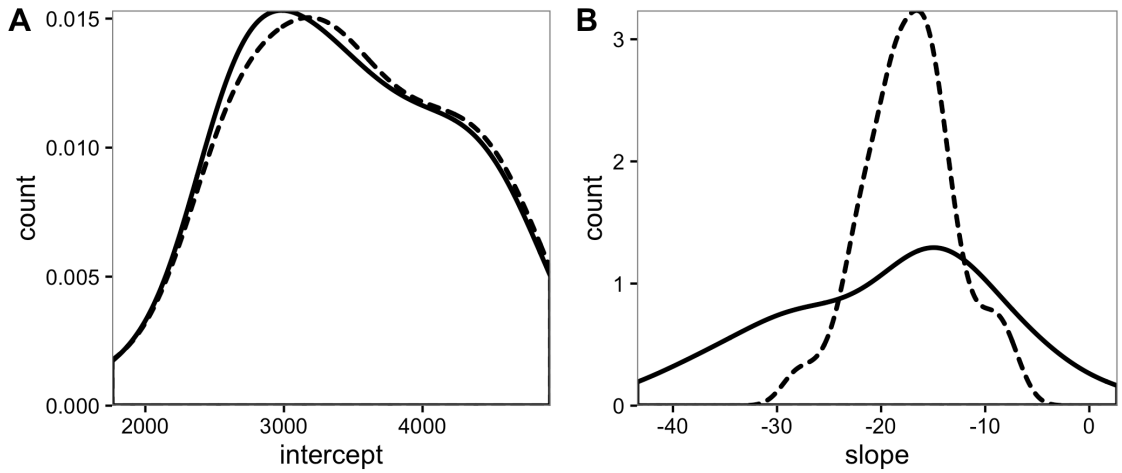

Figure S3 Density curves for the frequency counts of 35 intercept (A) and slope (A) estimated from fitting a simple linear model (dark gray dots) or predicted (BLUPs) from fitting a random effects coefficients model (light gray dots), respectively, for the relationship between soybean yield and white mold incidence. In B, note the narrower range of the predicted (BLUPs) estimates of individual linear regression models.

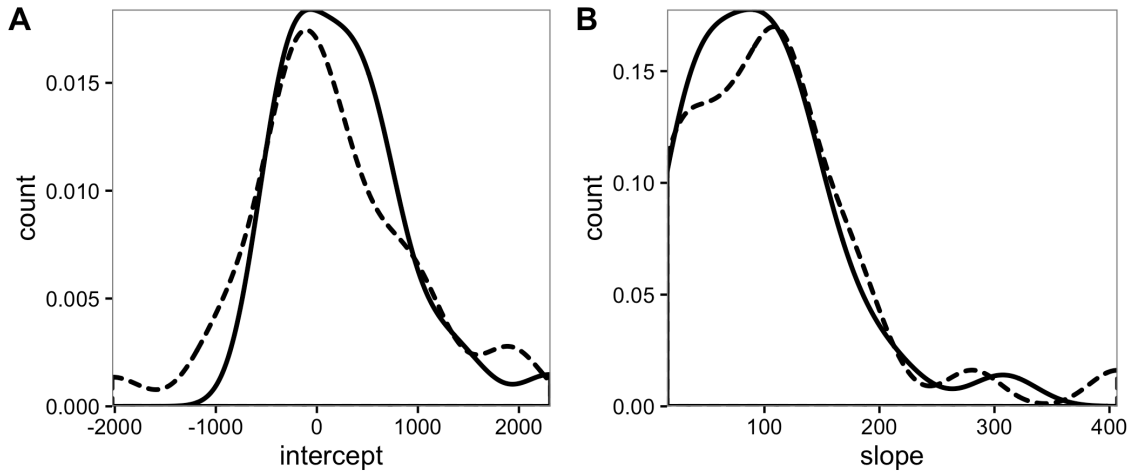

Figure S4. Density curves for the frequency counts of 29 intercept (A) and slope (A) estimated from fitting a simple linear model (dark gray dots) or predicted (BLUPs) from fitting a random effects coefficients model (light gray dots), respectively, for the relationship between sclerotial weight and white mold incidence. In B, note the narrower range of the predicted (BLUPs) estimates of individual linear regression models.