

Supplementary (appendix) Figures:

Table S1: Logistic fit models for emergence and normalized emergence based on year, cover crop system, seed size, and hybrid.

Treatments				Emergence			Normalized Emergence		
Year	Cover	Size	Hybrid	Logistic Fit Model	Approx. R <sup>2</sup>	Std. Error of Estimate	Logistic Fit Model	Approx. R <sup>2</sup>	Std. Error of Estimate
2019	Bare Soil			1206.6 / (1+48.4563*EXP(-0.77*plants))	0.9989	2.72	1169.3 / (1+24.3258*EXP(-1.16*plants))	0.9993	2.35
2019	KBG			1323 / (1+21.6821*EXP(-0.67*plants))	0.9990	2.69	1261.5 / (1+13.4098*EXP(-1.13*plants))	0.9998	1.33
2020	Bare Soil			1096.3 / (1+24.677*EXP(-1.19*plants))	0.9986	4.46	1094.7 / (1+21.5754*EXP(-1.42*plants))	0.9992	3.50
2020	KBG			940.1 / (1+26.1533*EXP(-0.57*plants))	0.9972	4.76	937.8 / (1+19.8747*EXP(-0.59*plants))	0.9971	5.00
2019	Bare Soil	IB		629.8 / (1+46.7091*EXP(-0.79*plants))	0.9990	1.97	612.4 / (1+22.1036*EXP(-1.18*plants))	0.9994	1.47
2019	Bare Soil	SD		577.4 / (1+52.8703*EXP(-0.75*plants))	0.9987	1.95	557.1 / (1+27.7324*EXP(-1.14*plants))	0.9987	1.87
2019	KBG	IB		657.2 / (1+24.9036*EXP(-0.71*plants))	0.9987	1.90	629.3 / (1+13.3488*EXP(-1.15*plants))	0.9997	0.91

20				666.4 /			632.1 /		
19	KBG	SD		(1+18.9674*EXP(-	0.998		(1+13.5445*EXP(-	0.999	
				0.64*plants)	9	1.86	1.1*plants)	7	0.98
				519.5 /			519.5 /		
20	Bare			(1+32.5031*EXP(-	0.998		(1+24.0422*EXP(-	0.999	
20	Soil	IB		1.29*plants)	4	2.85	1.45*plants)	3	2.01
				571.4 /			569.5 /		
20	Bare			(1+20.5892*EXP(-	0.998		(1+20.9481*EXP(-	0.998	
20	Soil	SD		1.14*plants)	2	3.35	1.43*plants)	8	2.73
				481.6 /			477.4 /		
20				(1+23.1278*EXP(-	0.998		(1+20.8382*EXP(-	0.997	
20	KBG	IB		0.51*plants)	1	2.76	0.54*plants)	5	3.21
				464.7 /			459.8 /		
20				(1+24.5399*EXP(-	0.997		(1+21.661*EXP(-	0.997	
20	KBG	SD		0.6*plants)	5	3.27	0.66*plants)	0	3.65
				323.8 /			311.1 /		
20	Bare		7016	(1+36.5021*EXP(-	0.998		(1+19.085*EXP(-	0.999	
19	Soil	IB	CNV	0.82*plants)	1	2.00	1.4*plants)	6	0.97
				310.3 /			301.4 /		
20	Bare			(1+70.7619*EXP(-	0.999		(1+43.7522*EXP(-	0.999	
19	Soil	IB	1197	0.79*plants)	1	1.22	1.19*plants)	3	1.00
							254.3 /		
20	Bare		7016	268 / (1+40.9164*EXP(-	0.996		(1+26.2057*EXP(-	0.998	
19	Soil	SD	CNV	0.77*plants)	9	2.18	1.46*plants)	2	1.58
				318.2 /			299.7 /		
20	Bare			(1+68.2636*EXP(-	0.998		(1+70.5578*EXP(-	0.999	
19	Soil	SD	1197	0.72*plants)	6	1.29	1.23*plants)	3	0.96
				327.6 /			311.2 /		
20			7016	(1+20.7315*EXP(-	0.997		(1+7.8159*EXP(-	0.999	
19	KBG	IB	CNV	0.74*plants)	4	1.74	1.22*plants)	7	0.50

20				339.4 /			316.3 /		
19	KBG	IB	1197	(1+31.9274*EXP(-	0.998		(1+34.4065*EXP(-	0.999	
				0.68*plants)	1	1.64	1.28*plants)	2	0.99
20			7016	342.4 /			328.8 /		
19	KBG	SD	CNV	(1+17.0864*EXP(-	0.998		(1+10.9194*EXP(-	0.999	
				0.69*plants)	9	1.42	1.15*plants)	7	0.68
20				326.2 /			302.8 /		
19	KBG	SD	1197	(1+24.0171*EXP(-	0.998		(1+19.4747*EXP(-	0.999	
				0.62*plants)	4	1.50	1.11*plants)	4	0.96
20	Bare		7016	226 / (1+17.8446*EXP(-	0.999		223.9 /		
20	Soil	IB	CNV	1.05*plants)	8	0.66	(1+25.2854*EXP(-	0.998	
				295.2 /			1.43*plants)	9	1.54
20	Bare			(1+31.185*EXP(-	0.997		295.7 /		
20	Soil	IB	1197	1.31*plants)	8	2.27	(1+23.1542*EXP(-	0.999	
				276.3 /			1.47*plants)	1	1.34
20	Bare		7016	(1+19.1344*EXP(-	0.998		275.6 /		
20	Soil	SD	CNV	1.01*plants)	0	2.14	(1+17.9567*EXP(-	0.998	
				295.8 /			1.2*plants)	8	1.82
20	Bare			(1+23.9289*EXP(-	0.997		292.8 /		
20	Soil	SD	1197	1.31*plants)	2	2.63	(1+33.5561*EXP(-	0.998	
				206.5 /			1.85*plants)	6	1.70
20			7016	(1+19.6617*EXP(-	0.998		203.8 /		
20	KBG	IB	CNV	0.55*plants)	7	1.49	(1+19.3409*EXP(-	0.997	
				272.5 /			0.62*plants)	6	2.08
20				(1+29.9519*EXP(-	0.997		273.1 /		
20	KBG	IB	1197	0.51*plants)	4	2.32	(1+22.8364*EXP(-	0.997	
				199.9 /			0.51*plants)	9	2.15
20			7016	(1+25.9039*EXP(-	0.996		197.8 /		
20	KBG	SD	CNV	0.63*plants)	9	2.41	(1+20.5905*EXP(-	0.996	
							0.68*plants)	2	2.73

20				264.8 /						
20	KBG	SD	1197	(1+23.8984*EXP(-	0.997			269 / (1+20.2251*EXP(-	0.995	
				0.59*plants)	8	2.32		0.61*plants)	9	3.41

Table S2: Logistic fit models for emergence based on planting depth, year, and cover crop systems.

Year	Cover	Depth	Logistic Fit Model	Approx. R <sup>2</sup>	Std. Error of Estimate
	Bare	3.15			
2019	Soil	cm	575.6 / (1+34.5443*EXP(-1.05*plants)	0.9975	2.48
	Bare	6.30			
2019	Soil	cm	598 / (1+11308.6*EXP(-1.49*plants)	0.9994	1.11
		3.15			
2019	KBG	cm	657.8 / (1+14.7432*EXP(-0.99*plants)	0.9994	1.46
		6.30			
2019	KBG	cm	605.5 / (1+8160*EXP(-1.51*plants)	0.9992	1.41
	Bare	3.15			
2020	Soil	cm	79.1369 / (1+2.2716*EXP(-0*plants)	0.9977	3.71
	Bare	6.30			
2020	Soil	cm	66.8831 / (1+1.2464*EXP(-0*plants)	0.9992	2.22
		3.15			
2020	KBG	cm	12.352 / (1+0.4881*EXP(-0*plants)	0.9943	4.65
		6.30			
2020	KBG	cm	66.8896 / (1+0.6909*EXP(-0*plants)	0.9979	3.07