

Appendix A: Common Trends Assumption

We demonstrate that the common trends assumption necessary for a valid DID design in eq. (1) is satisfied (Table A1).¹ Columns (1) and (2) present the pre-treatment (i.e., pre-SWD detection) growth rates for each of the dependent variables (insecticides, fungicides, and herbicides) and for each of the model covariates in both SWD-free counties (column 1) and SWD-detected counties (column 2). Pre-treatment growth rates for all variables appear to be very similar across the two groups. In column (3), we formally test for growth rate differences and report the *p*-value associated with the null hypothesis of no log growth rate difference. In no case is there evidence to reject the null hypothesis, hence, we conclude that counties with and without SWD detection prior to 2008 (the first year of US detection) are trending similarly on these observable characteristics.

Table A1: Pre-SWD Detection Differences Between Treated and Control Counties, 2005-2008

	(1)	(2)	(3)
Variable	Growth Rate in No SWD Counties	Growth Rate in SWD Detected Counties	<i>p</i> -value for growth rate difference
Insecticides	-0.030	-0.033	0.839
Herbicides	-0.007	-0.006	0.833
Fungicides	0.132	0.129	0.718
Minimum temperature	-0.050	-0.056	0.288
Maximum temperature	-0.010	-0.011	0.941
Precipitation	0.019	0.018	0.262
Counties	2170	581	-
States	41	41	-

Notes: columns (1) and (2) present log differences between 2005 and 2008 for no SWD and SWD detected counties. First US detection of SWD was in 2008. Column (3) presents the *p*-values from a two-sided t-test of no log difference in the growth rate values reported in columns (1) and (2).

****p*<0.01; ***p*<0.05; **p*<0.1.

¹ We do not demonstrate that the common trends assumption holds for eq. (2) because it is not a DID model – rather, it is a cross-sectional IV regression that uses the first-stage DID estimates.