

**eTable 1**  
Regression Results for Spring Pollen and Precipitation

	Spring precipitation total				Previous winter precipitation total				Previous fall precipitation total				Previous summer precipitation total			
	R	95% CI	R <sup>2</sup>	SIG	R	95% CI	R <sup>2</sup>	SIG	R	95% CI	R <sup>2</sup>	SIG	R	95% CI	R <sup>2</sup>	SIG
<b>Average daily pollen count</b>																
All trees	−0.06	(−0.31 to 0.19)	0.01	0.999	−0.03	(−0.31 to 0.26)	0.00	0.999	0.097	(−0.06 to 0.26)	0.06	0.864	−0.036	(−0.24 to 0.17)	0.01	0.999
<i>Quercus</i> (oak)	−0.34	(−0.75 to 0.06)	0.11	0.364	−0.12	(−0.6 to 0.36)	0.01	0.999	0.107	(−0.17 to 0.38)	0.03	0.999	0.076	(−0.27 to 0.42)	0.01	0.999
<i>Pinus</i> (pine)	0.041	(−0.18 to 0.26)	0.01	0.999	0.126	(−0.12 to 0.37)	0.04	0.878	<b>0.170</b>	<b>(0.05-0.29)</b>	<b>0.25</b>	<b>0.032</b>	−0.035	(−0.21 to 0.14)	0.01	0.999
<i>Morus</i> (mulberry)	0.048	(−0.07 to 0.16)	0.03	0.999	−0.04	(−0.17 to 0.09)	0.02	0.999	−0.037	(−0.11 to 0.04)	0.04	0.999	0.003	(−0.09 to 0.1)	0.00	0.999
<i>Platanus</i> (sycamore)	−0.04	(−0.11 to 0.02)	0.07	0.788	−0.04	(−0.12 to 0.04)	0.04	0.869	0.003	(−0.04 to 0.05)	0.00	0.999	0.002	(−0.06 to 0.06)	0.00	0.999
<i>Betula</i> (birch)	−0.05	(−0.13 to 0.02)	0.09	0.544	−0.05	(−0.14 to 0.03)	0.06	0.614	0.009	(−0.04 to 0.06)	0.01	0.999	0.009	(−0.05 to 0.07)	0.00	0.999
<i>Juniperus</i> (juniper)	−0.01	(−0.06 to 0.04)	0.01	0.999	−0.04	(−0.1 to 0.01)	0.11	0.367	−0.008	(−0.04 to 0.02)	0.01	0.999	0.029	(−0.01 to 0.07)	0.09	0.404
<i>Ulmus</i> (elm)	0.011	(−0.05 to 0.07)	0.01	0.999	−0.07	(−0.13 to −0.01)	0.21	0.07	−0.002	(−0.04 to 0.04)	0.00	0.999	−0.006	(−0.05 to 0.04)	0.00	0.999
<i>Salix</i> (willow)	−0	(−0.02 to 0.02)	0.00	0.999	−0.02	(−0.04 to 0)	0.10	0.4	−0.005	(−0.02 to 0.01)	0.02	0.999	0.001	(−0.02 to 0.02)	0.00	0.999
<i>Acer</i> (maple)	−0.01	(−0.04 to 0.01)	0.06	0.666	0.008	(−0.02 to 0.03)	0.01	0.666	0.007	(−0.01 to 0.02)	0.04	0.666	0.014	(−0.01 to 0.03)	0.08	0.588
All weeds	0.002	(−0.02 to 0.02)	0.00	0.999	0.03	(0-0.05)	0.19	0.07	<b>0.024</b>	<b>(0.01-0.03)</b>	<b>0.48</b>	<b>&lt;0.001</b>	−0.006	(−0.02 to 0.01)	0.02	0.999
<i>Poaceae</i> (grasses)	0.002	(−0.01 to 0.01)	0.00	0.999	0.003	(−0.01 to 0.01)	0.01	0.999	0.002	(0-0.01)	0.01	0.999	−0.006	(−0.01 to 0)	0.09	0.491
<b>Peak pollen count</b>																
All trees	−2.47	(−9.68 to 4.73)	0.02	0.999	2.329	(−5.84 to 10.5)	0.01	0.999	2.040	(−2.56 to 6.64)	0.03	0.999	0.439	(−5.51 to 6.38)	0.00	0.999
<i>Quercus</i> (oak)	−3.38	(−8.36 to 1.59)	0.07	0.696	1.801	(−4 to 7.6)	0.02	0.999	0.244	(−3.08 to 3.56)	0.00	0.999	1.822	(−2.33 to 5.98)	0.03	0.999
<i>Pinus</i> (pine)	1.341	(−3.68 to 6.36)	0.01	0.999	−0.97	(−6.66 to 4.73)	0.00	0.999	2.780	(−0.25 to 5.81)	0.12	0.284	−1.390	(−5.47 to 2.69)	0.02	0.999
<i>Morus</i> (mulberry)	0.491	(−0.8 to 1.79)	0.02	0.999	−0.24	(−1.72 to 1.23)	0.00	0.999	−0.496	(−1.31 to 0.32)	0.06	0.892	−0.260	(−1.33 to 0.81)	0.01	0.999
<i>Platanus</i> (sycamore)	−0.29	(−0.68 to 0.11)	0.08	0.569	−0.33	(−0.78 to 0.12)	0.08	0.569	0.043	(−0.22 to 0.31)	0.00	0.999	−0.068	(−0.4 to 0.27)	0.01	0.999
<i>Betula</i> (birch)	−0.14	(−1.03 to 0.74)	0.00	0.999	0.078	(−0.92 to 1.08)	0.00	0.999	0.095	(−0.47 to 0.66)	0.00	0.999	0.617	(−0.06 to 1.3)	0.12	0.293
<i>Juniperus</i> (juniper)	−0.07	(−1.06 to 0.92)	0.00	0.999	−0.31	(−1.42 to 0.8)	0.01	0.999	0.022	(−0.61 to 0.66)	0.00	0.999	0.417	(−0.37 to 1.21)	0.05	0.999
<i>Ulmus</i> (elm)	−0.15	(−0.64 to 0.33)	0.02	0.999	<b>−0.71</b>	<b>(−1.18 to −0.24)</b>	<b>0.28</b>	<b>0.02</b>	−0.015	(−0.33 to 0.3)	0.00	0.999	−0.134	(−0.53 to 0.26)	0.02	0.999
<i>Salix</i> (willow)	−0.08	(−0.29 to 0.13)	0.02	0.999	−0.18	(−0.4 to 0.05)	0.09	0.481	0.002	(−0.13 to 0.14)	0.00	0.999	0.033	(−0.14 to 0.2)	0.01	0.999
<i>Acer</i> (maple)	−0.22	(−0.46 to 0.02)	0.12	0.304	−0	(−0.29 to 0.29)	0.00	0.999	0.043	(−0.12 to 0.21)	0.01	0.999	0.167	(−0.03 to 0.37)	0.10	0.304
All weeds	−0.13	(−0.54 to 0.28)	0.02	0.999	0.214	(−0.25 to 0.68)	0.04	0.999	0.002	(−0.26 to 0.27)	0.00	0.999	−0.146	(−0.48 to 0.19)	0.03	0.999
<i>Poaceae</i> (grasses)	0.11	(0.02-0.21)	0.19	0.100	0.039	(−0.08 to 0.16)	0.02	0.995	0.037	(−0.03 to 0.1)	0.05	0.765	−0.029	(−0.11 to 0.06)	0.02	0.995
<b>Pollen season onset date</b>																
All trees	0.017	(−0.04 to 0.07)	0.02	0.915	−0.02	(−0.08 to 0.04)	0.02	0.915	0.022	(−0.01 to 0.06)	0.07	0.764	−0.022	(−0.07 to 0.02)	0.04	0.884
<i>Quercus</i> (oak)	−0.01	(−0.07 to 0.04)	0.01	0.999	0.008	(−0.06 to 0.07)	0.00	0.999	0.041	(0.01-0.08)	0.19	0.088	0.006	(−0.04 to 0.05)	0.00	0.999
<i>Pinus</i> (pine)	0.043	(−0.04 to 0.13)	0.04	0.960	−0	(−0.1 to 0.1)	0.00	0.999	<b>0.078</b>	<b>(0.03-0.12)</b>	<b>0.32</b>	<b>0.008</b>	0.011	(−0.06 to 0.08)	0.00	0.999
<i>Morus</i> (mulberry)	0.039	(−0.01 to 0.08)	0.11	0.340	0.019	(−0.03 to 0.07)	0.02	0.951	0.017	(−0.01 to 0.05)	0.05	0.756	−0.001	(−0.04 to 0.04)	0.00	0.96
<i>Platanus</i> (sycamore)	6E-04	(−0.06 to 0.06)	0.00	0.999	−0.03	(−0.09 to 0.03)	0.03	0.999	0.039	(0.01-0.07)	0.19	0.096	0.007	(−0.04 to 0.05)	0.00	0.999
<i>Betula</i> (birch)	0.005	(−0.06 to 0.07)	0.00	0.999	0.019	(−0.05 to 0.09)	0.01	0.999	0.036	(0-0.07)	0.13	0.240	−0.011	(−0.06 to 0.04)	0.01	0.999
<i>Juniperus</i> (juniper)	−0.02	(−0.07 to 0.04)	0.01	0.999	−0.02	(−0.09 to 0.04)	0.02	0.999	0.012	(−0.03 to 0.05)	0.02	0.999	−0.008	(−0.06 to 0.04)	0.00	0.999
<i>Ulmus</i> (elm)	−0.01	(−0.06 to 0.04)	0.01	0.999	0.008	(−0.05 to 0.06)	0.00	0.999	0.024	(0-0.05)	0.10	0.400	0.012	(−0.03 to 0.05)	0.02	0.999
<i>Salix</i> (willow)	0.028	(−0.03 to 0.09)	0.04	0.999	0.02	(−0.05 to 0.09)	0.01	0.999	0.031	(−0.01 to 0.07)	0.11	0.384	−0.006	(−0.06 to 0.04)	0.00	0.999
<i>Acer</i> (maple)	−0	(−0.08 to 0.08)	0.00	0.999	−0.01	(−0.1 to 0.08)	0.00	0.999	0.040	(−0.01 to 0.09)	0.10	0.428	0.026	(−0.04 to 0.09)	0.03	0.999
All weeds	0.081	(−0.08 to 0.24)	0.04	0.632	0.19	(0.02-0.36)	0.17	0.12	0.074	(−0.03 to 0.18)	0.08	0.447	−0.028	(−0.16 to 0.11)	0.01	0.675
<i>Poaceae</i> (grasses)	−0.01	(−0.07 to 0.05)	0.00	0.999	−0	(−0.07 to 0.06)	0.00	0.999	−0.004	(−0.04 to 0.03)	0.00	0.999	0.012	(−0.04 to 0.06)	0.01	0.999
<b>Pollen season peak date</b>																
All trees	0.02	(−0.01 to 0.05)	0.07	0.534	0.028	(0-0.06)	0.11	0.354	0.004	(−0.02 to 0.02)	0.01	0.999	−0.004	(−0.03 to 0.02)	0.00	0.999
<i>Quercus</i> (oak)	0.03	(−0.01 to 0.07)	0.11	0.364	0.021	(−0.02 to 0.06)	0.04	0.947	0.000	(−0.02 to 0.02)	0.00	0.999	−0.003	(−0.03 to 0.03)	0.00	0.999
<i>Pinus</i> (pine)	0.023	(−0.01 to 0.05)	0.09	0.496	0.023	(−0.01 to 0.06)	0.07	0.528	0.006	(−0.01 to 0.03)	0.02	0.528	0.015	(−0.01 to 0.04)	0.06	0.528
<i>Morus</i> (mulberry)	0.032	(0-0.07)	0.13	0.268	0.025	(−0.02 to 0.06)	0.06	0.643	0.008	(−0.02 to 0.03)	0.02	0.988	0.005	(−0.02 to 0.04)	0.01	0.988
<i>Platanus</i> (sycamore)	0.024	(−0.02 to 0.06)	0.06	0.896	0.021	(−0.02 to 0.07)	0.04	0.896	0.011	(−0.01 to 0.04)	0.03	0.896	0.018	(−0.01 to 0.05)	0.05	0.896
<i>Betula</i> (birch)	0.026	(−0.01 to 0.06)	0.09	0.359	0.031	(−0.01 to 0.07)	0.11	0.359	0.015	(−0.01 to 0.04)	0.08	0.359	−0.001	(−0.03 to 0.03)	0.00	0.96
<i>Juniperus</i> (juniper)	−0.03	(−0.09 to 0.03)	0.03	0.837	−0.01	(−0.08 to 0.06)	0.00	0.837	0.023	(−0.02 to 0.06)	0.06	0.837	0.031	(−0.02 to 0.08)	0.06	0.837
<i>Ulmus</i> (elm)	0.013	(−0.04 to 0.07)	0.01	0.843	0.049	(−0.01 to 0.11)	0.10	0.342	0.036	(0-0.07)	0.16	0.152	0.018	(−0.03 to 0.06)	0.03	0.843
<i>Salix</i> (willow)	0.021	(−0.04 to 0.08)	0.02	0.999	0.027	(−0.04 to 0.09)	0.03	0.999	0.014	(−0.02 to 0.05)	0.02	0.999	0.039	(−0.01 to 0.09)	0.11	0.391
<i>Acer</i> (maple)	−0.03	(−0.14 to 0.09)	0.01	0.999	0.085	(−0.04 to 0.21)	0.08	0.524	0.052	(−0.02 to 0.12)	0.09	0.524	0.006	(−0.09 to 0.1)	0.00	0.999
All weeds	−0.01	(−0.12 to 0.1)	0.00	0.999	−0.01	(−0.13 to 0.12)	0.00	0.999	−0.050	(−0.12 to 0.02)	0.09	0.461	0.067	(−0.02 to 0.15)	0.10	0.461
<i>Poaceae</i> (grasses)	0.019	(−0.05 to 0.08)	0.01	0.938	0.067	(0-0.14)	0.14	0.234	0.015	(−0.03 to 0.06)	0.02	0.938	0.040	(−0.01 to 0.09)	0.09	0.368

(continued)

eTable 1 (Continued)

	Spring precipitation total				Previous winter precipitation total				Previous fall precipitation total				Previous summer precipitation total			
	R	95% CI	R <sup>2</sup>	SIG	R	95% CI	R <sup>2</sup>	SIG	R	95% CI	R <sup>2</sup>	SIG	R	95% CI	R <sup>2</sup>	SIG
<b>Peak season end date</b>																
All trees	-0.02	(-0.05 to 0.01)	0.06	0.472	-0	(-0.04 to 0.03)	0.00	0.889	-0.016	(-0.04 to 0)	0.09	0.472	0.019	(-0.01 to 0.04)	0.08	0.472
<i>Quercus</i> (oak)	0.014	(-0.03 to 0.06)	0.02	0.852	<b>0.06</b>	<b>(0.02-0.1)</b>	<b>0.23</b>	<b>0.04</b>	0.013	(-0.01 to 0.04)	0.04	0.852	-0.019	(-0.05 to 0.02)	0.05	0.852
<i>Pinus</i> (pine)	0.076	(-0.02 to 0.17)	0.10	0.428	-0.03	(-0.15 to 0.08)	0.02	0.999	0.012	(-0.05 to 0.08)	0.01	0.999	0.037	(-0.04 to 0.12)	0.04	0.999
<i>Morus</i> (mulberry)	0.023	(-0.02 to 0.07)	0.04	0.945	0.044	(-0.01 to 0.09)	0.11	0.338	0.008	(-0.02 to 0.04)	0.01	0.945	-0.014	(-0.05 to 0.02)	0.02	0.945
<i>Platanus</i> (sycamore)	-0.03	(-0.09 to 0.03)	0.05	0.885	-0.04	(-0.1 to 0.02)	0.06	0.885	0.003	(-0.03 to 0.04)	0.00	0.999	0.002	(-0.05 to 0.05)	0.00	0.999
<i>Betula</i> (birch)	-0	(-0.06 to 0.05)	0.00	0.999	0.058	(0-0.12)	0.14	0.224	0.009	(-0.03 to 0.05)	0.01	0.999	-0.006	(-0.05 to 0.04)	0.00	0.999
<i>Juniperus</i> (juniper)	0.007	(-0.06 to 0.08)	0.00	0.999	0.011	(-0.07 to 0.09)	0.00	0.999	0.030	(-0.01 to 0.07)	0.07	0.700	0.019	(-0.04 to 0.08)	0.02	0.999
<i>Ulmus</i> (elm)	0.023	(-0.05 to 0.1)	0.02	0.999	0.052	(-0.03 to 0.14)	0.06	0.638	0.007	(-0.04 to 0.06)	0.00	0.999	-0.047	(-0.11 to 0.01)	0.10	0.465
<i>Salix</i> (willow)	-0.05	(-0.14 to 0.05)	0.04	0.999	0.019	(-0.09 to 0.13)	0.01	0.999	0.020	(-0.04 to 0.08)	0.02	0.999	0.026	(-0.05 to 0.1)	0.02	0.999
<i>Acer</i> (maple)	-0.02	(-0.09 to 0.06)	0.01	0.999	0.065	(-0.02 to 0.15)	0.09	0.365	0.043	(0-0.09)	0.12	0.296	0.003	(-0.06 to 0.07)	0.00	0.999
All weeds	-0.05	(-0.22 to 0.12)	0.02	0.679	0.089	(-0.1 to 0.28)	0.04	0.679	-0.085	(-0.19 to 0.02)	0.10	0.424	0.094	(-0.04 to 0.23)	0.08	0.48
<i>Poaceae</i> (grasses)	0.018	(-0.03 to 0.07)	0.02	0.999	-0.02	(-0.08 to 0.03)	0.03	0.999	0.004	(-0.03 to 0.04)	0.00	0.999	-0.027	(-0.07 to 0.01)	0.08	0.642
<b>Pollen season length</b>																
All trees	-0.04	(-0.11 to 0.04)	0.04	0.608	0.02	(-0.06 to 0.1)	0.01	0.629	-0.038	(-0.08 to 0.01)	0.11	0.380	0.041	(-0.02 to 0.1)	0.08	0.465
<i>Quercus</i> (oak)	0.028	(-0.05 to 0.11)	0.02	0.994	0.052	(-0.04 to 0.14)	0.05	0.994	-0.028	(-0.08 to 0.02)	0.05	0.994	-0.025	(-0.09 to 0.04)	0.02	0.994
<i>Pinus</i> (pine)	0.033	(-0.1 to 0.17)	0.01	0.999	-0.03	(-0.19 to 0.12)	0.01	0.999	-0.066	(-0.15 to 0.02)	0.10	0.448	0.026	(-0.08 to 0.14)	0.01	0.999
<i>Morus</i> (mulberry)	-0.02	(-0.07 to 0.04)	0.01	0.999	0.025	(-0.04 to 0.09)	0.03	0.999	-0.009	(-0.05 to 0.03)	0.01	0.999	-0.013	(-0.06 to 0.03)	0.01	0.999
<i>Platanus</i> (sycamore)	-0.03	(-0.11 to 0.04)	0.03	0.999	-0.01	(-0.1 to 0.08)	0.00	0.999	-0.036	(-0.08 to 0.01)	0.09	0.512	-0.006	(-0.07 to 0.06)	0.00	0.999
<i>Betula</i> (birch)	-0.01	(-0.09 to 0.07)	0.00	0.999	0.038	(-0.05 to 0.13)	0.03	0.999	-0.027	(-0.08 to 0.02)	0.04	0.999	0.005	(-0.06 to 0.07)	0.00	0.999
<i>Juniperus</i> (juniper)	0.023	(-0.06 to 0.11)	0.01	0.999	0.033	(-0.06 to 0.13)	0.02	0.999	0.018	(-0.04 to 0.07)	0.02	0.999	0.027	(-0.04 to 0.1)	0.02	0.999
<i>Ulmus</i> (elm)	0.035	(-0.06 to 0.13)	0.02	0.999	0.044	(-0.06 to 0.15)	0.03	0.999	-0.017	(-0.08 to 0.04)	0.01	0.999	-0.059	(-0.13 to 0.01)	0.10	0.434
<i>Salix</i> (willow)	-0.07	(-0.15 to 0)	0.14	0.212	-0	(-0.09 to 0.09)	0.00	0.999	-0.012	(-0.06 to 0.04)	0.01	0.999	0.032	(-0.03 to 0.1)	0.04	0.958
<i>Acer</i> (maple)	-0.01	(-0.1 to 0.07)	0.00	0.999	0.076	(-0.01 to 0.17)	0.11	0.388	0.003	(-0.05 to 0.06)	0.00	0.999	-0.023	(-0.09 to 0.05)	0.02	0.999
All weeds	-0.13	(-0.36 to 0.09)	0.06	0.542	-0.1	(-0.36 to 0.16)	0.03	0.542	-0.159	(-0.29 to -0.03)	0.19	0.088	0.122	(-0.06 to 0.3)	0.07	0.542
<i>Poaceae</i> (grasses)	0.028	(-0.04 to 0.1)	0.02	0.999	-0.02	(-0.1 to 0.06)	0.01	0.999	0.008	(-0.04 to 0.05)	0.00	0.999	-0.039	(-0.1 to 0.02)	0.07	0.7

Abbreviations: CI, confidence interval; SIG, significance probability.  
Regression models that were stastically significant ( $\alpha = 0.05$ ).

**eTable 2**  
Regression Results for Fall Pollen and Temperatures

	Fall temperature average				Previous summer temperature average				Previous spring temperature average				Previous winter temperature average			
	R	95% CI	R <sup>2</sup>	SIG	R	95% CI	R <sup>2</sup>	SIG	R	95% CI	R <sup>2</sup>	SIG	R	95% CI	R <sup>2</sup>	SIG
<b>Average daily pollen count</b>																
All trees	−2	(−4.3 to 0.3)	0.11	0.36	−0.48	(−3.6 to 2.7)	0.00	0.99	−0.47	(−3 to 2.1)	0.01	0.99	0.232	(−1.5 to 2)	0.00	0.99
<i>Ulmus</i> (elm)	−13.5	(−30.2 to 3.3)	0.10	0.33	−14.9	(−36.8 to 6.9)	0.07	0.34	−16.5	(−33.6 to 0.6)	0.14	0.23	1.241	(−11.1 to 13.6)	0.00	0.84
All weeds	−0.51	(−2.2 to 1.2)	0.01	0.99	0.177	(−2 to 2.4)	0.00	0.99	0.434	(−1.4 to 2.2)	0.01	0.99	−0.72	(−1.9 to 0.5)	0.06	0.88
<i>Ambrosia</i> (ragweed)	−0.96	(−3.2 to 1.3)	0.03	0.99	−1.42	(−4.3 to 1.5)	0.04	0.99	0.5	(−1.9 to 2.9)	0.01	0.99	0.039	(−1.6 to 1.7)	0.00	0.99
<i>Amaranthus</i> (pigweed)	−0.09	(−0.3 to 0.2)	0.02	0.99	0.076	(−0.2 to 0.4)	0.01	0.99	−0.11	(−0.4 to 0.1)	0.03	0.99	−0.05	(−0.2 to 0.1)	0.01	0.99
<i>Urticaceae</i> (nettle)	0.159	(−0.1 to 0.4)	0.05	0.50	0.248	(−0.1 to 0.6)	0.08	0.49	0.13	(−0.2 to 0.4)	0.03	0.5	−0.2	(−0.4 to 0)	0.17	0.12
<i>Poaceae</i> (grasses)	0.137	(−0.4 to 0.7)	0.01	0.99	0.605	(0-1.2)	0.14	0.22	−0.25	(−0.8 to 0.3)	0.04	0.99	0.024	(−0.3 to 0.4)	0.00	0.99
<b>Peak pollen count</b>																
All trees	−57.2	(−146.1 to 31.7)	0.07	0.59	−53.4	(−169.5 to 62.7)	0.03	0.71	−66.7	(−158.5 to 25.1)	0.08	0.59	9.127	(−55.3 to 73.5)	0.00	0.77
<i>Ulmus</i> (elm)	−78.7	(−167.2 to 9.9)	0.12	0.32	−76.2	(−193.1 to 40.7)	0.07	0.38	−71.7	(−165.4 to 21.9)	0.09	0.38	4.011	(−62.1 to 70.1)	0.00	0.9
All weeds	−13.5	(−52.2 to 25.3)	0.02	0.99	20.95	(−28.5 to 70.4)	0.03	0.99	13.06	(−27.3 to 53.4)	0.02	0.99	−5.65	(−33 to 21.7)	0.01	0.99
<i>Ambrosia</i> (ragweed)	−22.2	(−56.7 to 12.4)	0.07	0.79	12.16	(−33.4 to 57.8)	0.01	0.99	7.328	(−29.8 to 44.4)	0.01	0.99	−3.52	(−28.5 to 21.5)	0.00	0.99
<i>Amaranthus</i> (pigweed)	0.489	(−0.7 to 1.7)	0.03	0.99	1.388	(−0.1 to 2.8)	0.13	0.24	0.098	(−1.2 to 1.4)	0.00	0.99	0.006	(−0.8 to 0.9)	0.00	0.99
<i>Urticaceae</i> (nettle)	0.711	(−0.8 to 2.2)	0.04	0.96	1.767	(−0.1 to 3.6)	0.14	0.23	0.036	(−1.6 to 1.6)	0.00	0.96	−0.52	(−1.6 to 0.5)	0.04	0.96
<i>Poaceae</i> (grasses)	0.496	(−0.9 to 1.9)	0.02	0.99	1.108	(−0.7 to 2.9)	0.06	0.87	−0.23	(−1.7 to 1.3)	0.00	0.99	0.143	(−0.9 to 1.2)	0.00	0.99
<b>Pollen season onset date</b>																
All trees	−9.08	(−21 to 2.8)	0.09	0.52	−4.84	(−20.7 to 11.1)	0.02	0.99	5.953	(−6.8 to 18.7)	0.04	0.99	2.152	(−6.6 to 10.9)	0.01	0.99
<i>Ulmus</i> (elm)	4.694	(−6.1 to 15.5)	0.03	0.99	1.156	(−12.9 to 15.2)	0.00	0.99	−0.61	(−12 to 10.8)	0.00	0.99	−0.26	(−7.9 to 7.4)	0.00	0.99
All weeds	−0.48	(−7.5 to 6.5)	0.00	0.99	7.607	(−0.8 to 16)	0.12	0.3	−0.65	(−7.9 to 6.6)	0.00	0.99	−3.22	(−7.9 to 1.5)	0.07	0.52
<i>Ambrosia</i> (ragweed)	−1.36	(−4.7 to 2)	0.03	0.99	−0.34	(−4.7 to 4)	0.00	0.99	−0.79	(−4.3 to 2.8)	0.01	0.99	1.379	(−0.9 to 3.7)	0.06	0.93
<i>Amaranthus</i> (pigweed)	−0.62	(−7.9 to 6.6)	0.00	0.86	4.387	(−4.8 to 13.5)	0.04	0.67	−4.51	(−11.8 to 2.8)	0.06	0.65	−4.09	(−8.9 to 0.7)	0.11	0.37
<i>Urticaceae</i> (nettle)	−2.66	(−12.7 to 7.4)	0.01	0.99	−3.26	(−16.1 to 9.6)	0.01	0.99	−4.28	(−14.6 to 6.1)	0.03	0.99	0.853	(−6.2 to 7.9)	0.00	0.99
<i>Poaceae</i> (grasses)	−0.21	(−9.9 to 9.5)	0.00	0.99	9.168	(−2.6 to 21)	0.09	0.49	2.992	(−7 to 13)	0.01	0.99	−3.77	(−10.4 to 2.8)	0.05	0.75
<b>Pollen season peak date</b>																
All trees	−7.78	(−21.6 to 6)	0.05	0.99	−9.09	(−26.9 to 8.7)	0.04	0.99	1.635	(−13.1 to 16.4)	0.00	0.99	−2.92	(−12.8 to 6.9)	0.01	0.99
<i>Ulmus</i> (elm)	3.946	(−6.6 to 14.5)	0.02	0.99	0.499	(−13.2 to 14.2)	0.00	0.99	−1.82	(−12.9 to 9.3)	0.00	0.99	−0.49	(−8 to 7)	0.00	0.99
All weeds	1.895	(−1.5 to 5.3)	0.05	0.80	1.38	(−3.1 to 5.9)	0.02	0.99	0.738	(−2.9 to 4.4)	0.01	0.99	1.624	(−0.8 to 4)	0.07	0.69
<i>Ambrosia</i> (ragweed)	2.35	(−1.1 to 5.8)	0.07	0.70	0.46	(−4.1 to 5.1)	0.00	0.99	−0.49	(−4.2 to 3.2)	0.00	0.99	1.484	(−1 to 3.9)	0.06	0.7
<i>Amaranthus</i> (pigweed)	2.348	(−5.9 to 10.6)	0.01	0.99	11.6	(2-21.1)	0.20	0.08	3.53	(−5 to 12.1)	0.03	0.99	−1.6	(−7.4 to 4.2)	0.01	0.99
<i>Urticaceae</i> (nettle)	−1.11	(−10.5 to 8.3)	0.00	0.99	0.936	(−11.1 to 13)	0.00	0.99	−3.92	(−13.6 to 5.7)	0.03	0.99	2.15	(−4.4 to 8.7)	0.02	0.99
<i>Poaceae</i> (grasses)	−6.35	(−16.7 to 4)	0.06	0.43	5.386	(−8.1 to 18.9)	0.03	0.43	12	(2.1-22)	0.20	0.08	−7.1	(−14 to −0.2)	0.15	0.13
<b>Peak season end date</b>																
All trees	−3.71	(−19.7 to 12.3)	0.01	0.99	−15	(−34.7 to 4.6)	0.09	0.51	−3.14	(−19.8 to 13.5)	0.01	0.99	−2.98	(−14.2 to 8.2)	0.01	0.99
<i>Ulmus</i> (elm)	2.638	(−8.2 to 13.5)	0.01	0.99	0.254	(−13.7 to 14.2)	0.00	0.99	0.542	(−10.8 to 11.9)	0.00	0.99	−1.02	(−8.6 to 6.6)	0.00	0.99
All weeds	1.861	(−5.6 to 9.3)	0.01	0.99	6.041	(−3.2 to 15.3)	0.07	0.77	1.664	(−6.1 to 9.4)	0.01	0.99	−1.2	(−6.4 to 4)	0.01	0.99
<i>Ambrosia</i> (ragweed)	−0.42	(−5.8 to 5)	0.00	0.99	2.24	(−4.6 to 9.1)	0.02	0.99	0.96	(−4.7 to 6.6)	0.00	0.99	−0.17	(−4 to 3.6)	0.00	0.99
<i>Amaranthus</i> (pigweed)	3.469	(−5.3 to 12.2)	0.03	0.99	12.3	(2.2 to 22.5)	0.20	0.08	3.331	(−5.8 to 12.4)	0.02	0.99	−2.03	(−8.2 to 4.1)	0.02	0.99
<i>Urticaceae</i> (nettle)	−0.16	(−9.5 to 9.1)	0.00	0.99	−2.57	(−14.5 to 9.3)	0.01	0.99	−8.37	(−17.4 to 0.7)	0.13	0.27	2.571	(−3.9 to 9)	0.03	0.99
<i>Poaceae</i> (grasses)	−7.32	(−17.8 to 3.1)	0.08	0.32	2.717	(−11.2 to 16.7)	0.01	0.69	12.7	(2.7-22.8)	0.21	0.06	−6.2	(−13.4 to 1)	0.11	0.26
<b>Pollen season length</b>																
All trees	−0.74	(−15.4 to 13.9)	0.00	0.92	−10.2	(−28.5 to 8.2)	0.05	0.65	−9.09	(−23.9 to 5.7)	0.06	0.65	−7.06	(−16.9 to 2.8)	0.08	0.61
<i>Ulmus</i> (elm)	−2.06	(−6.1 to 2)	0.04	0.99	−0.9	(−6.3 to 4.4)	0.00	0.99	1.157	(−3.2 to 5.5)	0.01	0.99	−0.76	(−3.7 to 2.2)	0.01	0.99
All weeds	−1.94	(−11.2 to 7.3)	0.01	0.99	−1.57	(−13.5 to 10.3)	0.00	0.99	2.313	(−7.3 to 11.9)	0.01	0.99	0.677	(−5.8 to 7.2)	0.00	0.99
<i>Ambrosia</i> (ragweed)	0.944	(−6 to 7.9)	0.00	0.99	2.576	(−6.4 to 11.5)	0.01	0.99	1.745	(−5.5 to 9)	0.01	0.99	−1.55	(−6.4 to 3.3)	0.02	0.99
<i>Amaranthus</i> (pigweed)	4.093	(−2.6 to 10.8)	0.06	0.43	7.935	(−0.3 to 16.1)	0.14	0.17	7.84	(1.5-14.2)	0.20	0.07	2.061	(−2.7 to 6.8)	0.03	0.43
<i>Urticaceae</i> (nettle)	2.496	(−4.2 to 9.2)	0.02	0.99	0.692	(−8 to 9.4)	0.00	0.99	−4.09	(−10.9 to 2.8)	0.06	0.93	1.719	(−3 to 6.4)	0.02	0.99
<i>Poaceae</i> (grasses)	−8.33	(−22.4 to 5.7)	0.06	0.72	−6.45	(−24.8 to 11.9)	0.02	0.95	9.726	(−4.7 to 24.2)	0.07	0.72	−2.44	(−12.5 to 7.6)	0.01	0.95

Abbreviations: CI, confidence interval; SIG, significance probability.

**eTable 3**  
Regression Results for Fall Pollen and Precipitation

	Fall precipitation total				Previous summer precipitation total				Previous spring precipitation total				Previous winter precipitation total			
	R	95% CI	R <sup>2</sup>	SIG	R	95% CI	R <sup>2</sup>	SIG	R	95% CI	R <sup>2</sup>	SIG	R	95% CI	R <sup>2</sup>	SIG
<b>Average daily pollen count</b>																
All trees	-0.005	(-0.02 to 0.01)	0.01	0.593	0.000	(-0.02 to 0.02)	0.00	1	0.003	(-0.02 to 0.03)	0.00	0.83	0.022	(-0.01 to 0.05)	0.09	0.13
<i>Ulmus</i> (elm)	-0.022	(-0.15 to 0.1)	0.01	0.713	0.153	(0.01-0.3)	0.15	0.171	0.087	(-0.1 to 0.28)	0.03	0.35	0.165	(-0.04 to 0.37)	0.10	0.12
All weeds	-0.006	(-0.02 to 0.01)	0.04	0.305	0.002	(-0.01 to 0.02)	0.00	0.84	0.010	(-0.01 to 0.03)	0.05	0.27	0.002	(-0.02 to 0.02)	0.00	0.85
<i>Ambrosia</i> (ragweed)	0.003	(-0.01 to 0.02)	0.01	0.720	0.005	(-0.02 to 0.03)	0.01	0.6	0.009	(-0.02 to 0.03)	0.02	0.48	-0.002	(-0.03 to 0.03)	0.00	0.87
<i>Amaranthus</i> (pigweed)	-0.001	(0-0)	0.03	0.369	0.001	(0-0)	0.04	0.33	0.002	(0-0)	0.12	0.08	0.001	(0-0)	0.02	0.53
<i>Urticaceae</i> (nettle)	-0.001	(0-0)	0.05	0.262	0.000	(0-0)	0.00	0.86	0.003	(0-0.01)	0.12	0.08	-0.001	(0-0)	0.01	0.6
<i>Poaceae</i> (grasses)	-0.002	(-0.01 to 0)	0.06	0.205	-0.003	(-0.01 to 0)	0.07	0.17	-0.002	(-0.01 to 0)	0.03	0.4	0.004	(0-0.01)	0.07	0.18
<b>Peak pollen count</b>																
All trees	-0.241	(-0.88 to 0.4)	0.02	0.444	0.621	(-0.17 to 1.41)	0.09	0.12	0.163	(-0.84 to 1.17)	0.00	0.74	0.899	(-0.18 to 1.98)	0.11	0.1
<i>Ulmus</i> (elm)	-0.138	(-0.8 to 0.52)	0.01	0.671	0.731	(-0.07 to 1.53)	0.12	0.07	0.408	(-0.61 to 1.43)	0.03	0.42	0.759	(-0.37 to 1.88)	0.07	0.18
All weeds	0.016	(-0.26 to 0.29)	0.00	0.907	-0.104	(-0.45 to 0.25)	0.01	0.55	-0.211	(-0.63 to 0.2)	0.04	0.31	0.024	(-0.46 to 0.5)	0.00	0.92
<i>Ambrosia</i> (ragweed)	0.033	(-0.22 to 0.28)	0.00	0.785	-0.012	(-0.34 to 0.31)	0.00	0.94	-0.073	(-0.46 to 0.32)	0.01	0.7	0.130	(-0.31 to 0.57)	0.01	0.55
<i>Amaranthus</i> (pigweed)	<b>-0.010</b>	<b>(-0.02 to 0)</b>	<b>0.25</b>	<b>0.028</b>	-0.004	(-0.02 to 0.01)	0.03	0.4	-0.009	(-0.02 to 0)	0.08	0.14	-0.006	(-0.02 to 0.01)	0.03	0.37
<i>Urticaceae</i> (nettle)	<b>-0.013</b>	<b>(-0.02 to 0)</b>	<b>0.25</b>	<b>0.028</b>	-0.006	(-0.02 to 0.01)	0.03	0.4	-0.002	(-0.02 to 0.01)	0.00	0.85	-0.009	(-0.03 to 0.01)	0.04	0.34
<i>Poaceae</i> (grasses)	-0.006	(-0.02 to 0)	0.06	0.205	-0.015	(-0.03 to 0)	0.23	0.01	-0.008	(-0.02 to 0.01)	0.05	0.28	0.014	(0-0.03)	0.11	0.1
<b>Pollen season onset date</b>																
All trees	<b>0.109</b>	<b>(0.03-0.18)</b>	<b>0.27</b>	<b>0.024</b>	0.046	(-0.07 to 0.16)	0.03	0.4	-0.053	(-0.19 to 0.08)	0.03	0.43	-0.041	(-0.2 to 0.11)	0.01	0.58
<i>Ulmus</i> (elm)	-0.036	(-0.11 to 0.04)	0.04	0.338	0.032	(-0.07 to 0.13)	0.02	0.52	-0.027	(-0.15 to 0.09)	0.01	0.64	-0.060	(-0.19 to 0.07)	0.03	0.37
All weeds	-0.034	(-0.08 to 0.01)	0.09	0.119	-0.019	(-0.08 to 0.04)	0.02	0.5	0.016	(-0.05 to 0.09)	0.01	0.65	0.071	(0-0.15)	0.13	0.06
<i>Ambrosia</i> (ragweed)	0.017	(-0.01 to 0.04)	0.09	0.131	-0.012	(-0.04 to 0.02)	0.03	0.41	-0.032	(-0.07 to 0)	0.12	0.07	0.012	(-0.03 to 0.05)	0.01	0.57
<i>Amaranthus</i> (pigweed)	-0.020	(-0.07 to 0.03)	0.03	0.418	0.022	(-0.04 to 0.09)	0.02	0.49	0.003	(-0.08 to 0.08)	0.00	0.94	0.046	(-0.04 to 0.13)	0.04	0.29
<i>Urticaceae</i> (nettle)	0.006	(-0.06 to 0.08)	0.00	0.855	0.007	(-0.08 to 0.1)	0.00	0.88	-0.014	(-0.12 to 0.1)	0.00	0.79	0.024	(-0.1 to 0.15)	0.01	0.69
<i>Poaceae</i> (grasses)	0.001	(-0.07 to 0.07)	0.00	0.972	-0.015	(-0.1 to 0.07)	0.00	0.73	-0.042	(-0.15 to 0.06)	0.03	0.42	0.024	(-0.1 to 0.14)	0.01	0.69
<b>Pollen season peak date</b>																
All trees	-0.008	(-0.11 to 0.09)	0.00	0.873	0.124	(0.01-0.24)	0.16	<b>0.12</b>	-0.035	(-0.19 to 0.12)	0.01	0.65	<b>-0.179</b>	<b>(-0.34 to -0.02)</b>	<b>0.18</b>	<b>0.03</b>
<i>Ulmus</i> (elm)	-0.044	(-0.12 to 0.03)	0.06	0.219	0.020	(-0.08 to 0.12)	0.01	0.67	-0.037	(-0.15 to 0.08)	0.02	0.51	-0.043	(-0.17 to 0.09)	0.02	0.51
All weeds	-0.007	(-0.03 to 0.02)	0.02	0.527	-0.018	(-0.05 to 0.01)	0.06	0.21	-0.035	(-0.07 to 0)	0.16	0.04	0.018	(-0.02 to 0.06)	0.03	0.38
<i>Ambrosia</i> (ragweed)	-0.010	(-0.03 to 0.01)	0.03	0.379	0.014	(-0.02 to 0.04)	0.03	0.36	-0.019	(-0.06 to 0.02)	0.04	0.29	0.022	(-0.02 to 0.06)	0.05	0.28
<i>Amaranthus</i> (pigweed)	<b>-0.065</b>	<b>(-0.12 to -0.01)</b>	<b>0.22</b>	<b>0.060</b>	-0.036	(-0.11 to 0.04)	0.04	0.33	-0.083	(-0.17 to 0)	0.14	0.05	-0.028	(-0.13 to 0.07)	0.01	0.58
<i>Urticaceae</i> (nettle)	-0.027	(-0.09 to 0.04)	0.03	0.393	-0.033	(-0.12 to 0.05)	0.03	0.43	-0.043	(-0.14 to 0.06)	0.03	0.39	-0.006	(-0.12 to 0.11)	0.00	0.92
<i>Poaceae</i> (grasses)	0.021	(-0.05 to 0.09)	0.01	0.572	-0.111	(-0.2 to -0.03)	0.22	<b>0.052</b>	-0.065	(-0.18 to 0.05)	0.05	0.25	-0.045	(-0.18 to 0.09)	0.02	0.48
<b>Peak season end date</b>																
All trees	0.000	(-0.1 to 0.11)	0.00	0.992	0.139	(0.02-0.26)	0.18	0.03	-0.006	(-0.17 to 0.16)	0.00	0.94	-0.150	(-0.32 to 0.02)	0.11	0.09
<i>Ulmus</i> (elm)	-0.053	(-0.13 to 0.02)	0.08	0.144	0.010	(-0.09 to 0.11)	0.00	0.84	-0.046	(-0.16 to 0.07)	0.02	0.43	-0.044	(-0.18 to 0.09)	0.02	0.51
All weeds	<b>-0.078</b>	<b>(-0.12 to -0.04)</b>	<b>0.39</b>	<b>0.004</b>	0.001	(-0.07 to 0.07)	0.00	0.97	-0.051	(-0.13 to 0.03)	0.07	0.19	0.012	(-0.08 to 0.1)	0.00	0.79
<i>Ambrosia</i> (ragweed)	<b>-0.055</b>	<b>(-0.09 to -0.02)</b>	<b>0.35</b>	<b>0.004</b>	-0.006	(-0.05 to 0.04)	0.00	0.82	-0.049	(-0.11 to 0.01)	0.12	0.08	-0.033	(-0.1 to 0.03)	0.04	0.31
<i>Amaranthus</i> (pigweed)	<b>-0.064</b>	<b>(-0.12 to -0.01)</b>	<b>0.19</b>	<b>0.100</b>	-0.040	(-0.12 to 0.04)	0.04	0.3	<b>-0.093</b>	<b>(-0.18 to -0.01)</b>	<b>0.16</b>	<b>0.04</b>	-0.027	(-0.13 to 0.08)	0.01	0.61
<i>Urticaceae</i> (nettle)	-0.033	(-0.1 to 0.03)	0.04	0.292	0.005	(-0.08 to 0.09)	0.00	0.9	-0.015	(-0.12 to 0.09)	0.00	0.77	0.024	(-0.09 to 0.14)	0.01	0.67
<i>Poaceae</i> (grasses)	0.017	(-0.06 to 0.09)	0.01	0.649	<b>-0.117</b>	<b>(-0.2 to -0.03)</b>	<b>0.24</b>	<b>0.040</b>	-0.064	(-0.18 to 0.05)	0.05	0.27	-0.061	(-0.19 to 0.07)	0.03	0.35
<b>Pollen season length</b>																
All trees	<b>-0.109</b>	<b>(-0.2 to -0.02)</b>	<b>0.19</b>	<b>0.023</b>	0.093	(-0.03 to 0.22)	0.08	0.15	0.047	(-0.11 to 0.21)	0.01	0.55	-0.109	(-0.28 to 0.07)	0.06	0.21
<i>Ulmus</i> (elm)	-0.018	(-0.05 to 0.01)	0.06	0.211	-0.021	(-0.06 to 0.02)	0.05	0.24	-0.019	(-0.06 to 0.03)	0.03	0.41	0.016	(-0.04 to 0.07)	0.02	0.53
All weeds	-0.044	(-0.11 to 0.02)	0.08	0.160	0.021	(-0.06 to 0.1)	0.01	0.62	-0.066	(-0.16 to 0.03)	0.07	0.18	-0.058	(-0.17 to 0.05)	0.04	0.3
<i>Ambrosia</i> (ragweed)	<b>-0.072</b>	<b>(-0.11 to -0.03)</b>	<b>0.36</b>	<b>0.004</b>	0.007	(-0.06 to 0.07)	0.00	0.82	-0.018	(-0.09 to 0.06)	0.01	0.64	-0.045	(-0.13 to 0.04)	0.05	0.29
<i>Amaranthus</i> (pigweed)	-0.044	(-0.09 to 0)	0.15	0.050	-0.062	(-0.12 to -0.01)	0.17	<b>0.094</b>	<b>-0.096</b>	<b>(-0.16 to -0.03)</b>	<b>0.28</b>	<b>0.017</b>	-0.073	(-0.15 to 0.01)	0.13	0.07
<i>Urticaceae</i> (nettle)	-0.039	(-0.08 to 0.01)	0.12	0.081	-0.001	(-0.06 to 0.06)	0.00	0.96	0.000	(-0.07 to 0.07)	0.00	0.99	0.000	(-0.08 to 0.08)	0.00	0.99
<i>Poaceae</i> (grasses)	0.016	(-0.08 to 0.12)	0.00	0.749	-0.102	(-0.23 to 0.02)	0.10	0.1	-0.022	(-0.18 to 0.14)	0.00	0.78	-0.085	(-0.26 to 0.09)	0.04	0.33

Abbreviations: CI, confidence interval; SIG, significance probability.  
Regression models that were stastically significant ( $\alpha = 0.05$ ).