

SUPPLEMENTARY MATERIAL

Supplementary Table 1. ANOVA analysis to determine the effects of inoculation by defoliating *Verticillium dahliae* and soil type on disease development and yield in plants of cultivar 'Picual' grown under field conditions

Variable	Inoculation Treatment	Soil Type	Inoculation treatment x Soil Type
Trees with no yield (%)	<0.001	0.009	0.007
Mean yield per tree (g)	0.008	0.275	0.147
Mean Disease Severity (0-4 scale) ^a		0.002	
Death plants (%) ^a		0.017	
Disease Incidence (%) ^a		0.012	

^a Data from control treatment were not include in the analysis as all plants sowed no symptoms (mean= 0, variance=0) and cannot be included in the ANOVA analyses

Supplementary Table 2. Mean content of the main groups of phenolic and volatile compounds in oils extracted from olive trees grown in three different soils (sandy-loam, clay-loam, and loam) infected (Vd) and non-infected (control) by *D-Verticillium dahliae* and ANOVA analysis to determine the effects of pathogen inoculation and soil type

Compound ^b	Sandy-Loam				Clay-Loam				Loam				ANOVA Analysis		
	Vd inoculated ^a		Control		Vd inoculated		Control		Vd inoculated		Control		Inoculation Treatment	Soil Type	Inoculation treatment x Soil Type
Phenols (µg/g)															
3,4-DHPEA	1.17	AB	1.23	AB	1.11	B	1.20	B	1.57	A	1.29	A	0.607	0.027	0.156
p-HPEA	2.87		3.77		3.31		3.06		3.62		4.01		0.175	0.121	0.193
3,4-DHPEA acetate	0.63	B*	0.28	B	1.26	A*	0.46	AB	0.77	AB*	0.55	A	<0.001	0.016	0.084
3,4-DHPEA-EDA	15.61		17.96		16.86		16.14		14.29		15.79		0.495	0.604	0.695
p-HPEA-EDA	8.21		10.60	*	10.46		11.89	*	8.29		14.14	*	0.009	0.341	0.263
3,4-DHPEA-EA	187.88		220.37	*	154.56		220.27	*	162.13		180.20	*	0.018	0.234	0.440
p-HPEA-EA	95.63		131.54	*	89.82		126.32	*	94.49		101.17	*	0.002	0.257	0.216
pinoresinol	1.87		1.97		2.15		2.01		2.14		1.90		0.181	0.151	0.116
1-acetoxypinoresinol	3.93		3.79		3.59		3.75		3.73		3.35		0.524	0.389	0.511
luteolin	11.54		10.70		10.04		11.51		10.98		12.07		0.363	0.619	0.279
apigenin	4.63		3.72		3.71		4.68		4.08		4.17		0.800	0.952	0.002
vanillic acid	0.15		0.18	*	0.14		0.19	*	0.15		0.22	*	0.013	0.579	0.728
p-coumaric acid	0.50		0.58	*	0.43		0.54	*	0.51		0.63	*	0.007	0.172	0.852
cinnamic acid	0.03		0.03		0.03		0.03		0.03		0.04		0.219	0.543	0.811
ferulic acid	0.11		0.11		0.13		0.11		0.14		0.13		0.334	0.069	0.609
Orthodiphenols	216.83		250.54	*	183.83		249.58	*	189.75		209.90	*	0.025	0.270	0.525
Tyrosol derivatives	311.99		385.76	*	277.38		379.35	*	285.16		317.15	*	0.007	0.264	0.478
Lignans	5.80		5.76		5.73		5.76		5.87		5.25		0.244	0.577	0.286
Flavonoids	16.17		14.42		13.75		16.19		15.06		16.24		0.422	0.769	0.089
Phenolic acids	0.79		0.91	*	0.73		0.88	*	0.84		1.02	*	0.011	0.181	0.871
Non-orthodiphenols	117.93		156.29	*	113.77		152.58	*	117.18		129.76	*	0.001	0.350	0.303

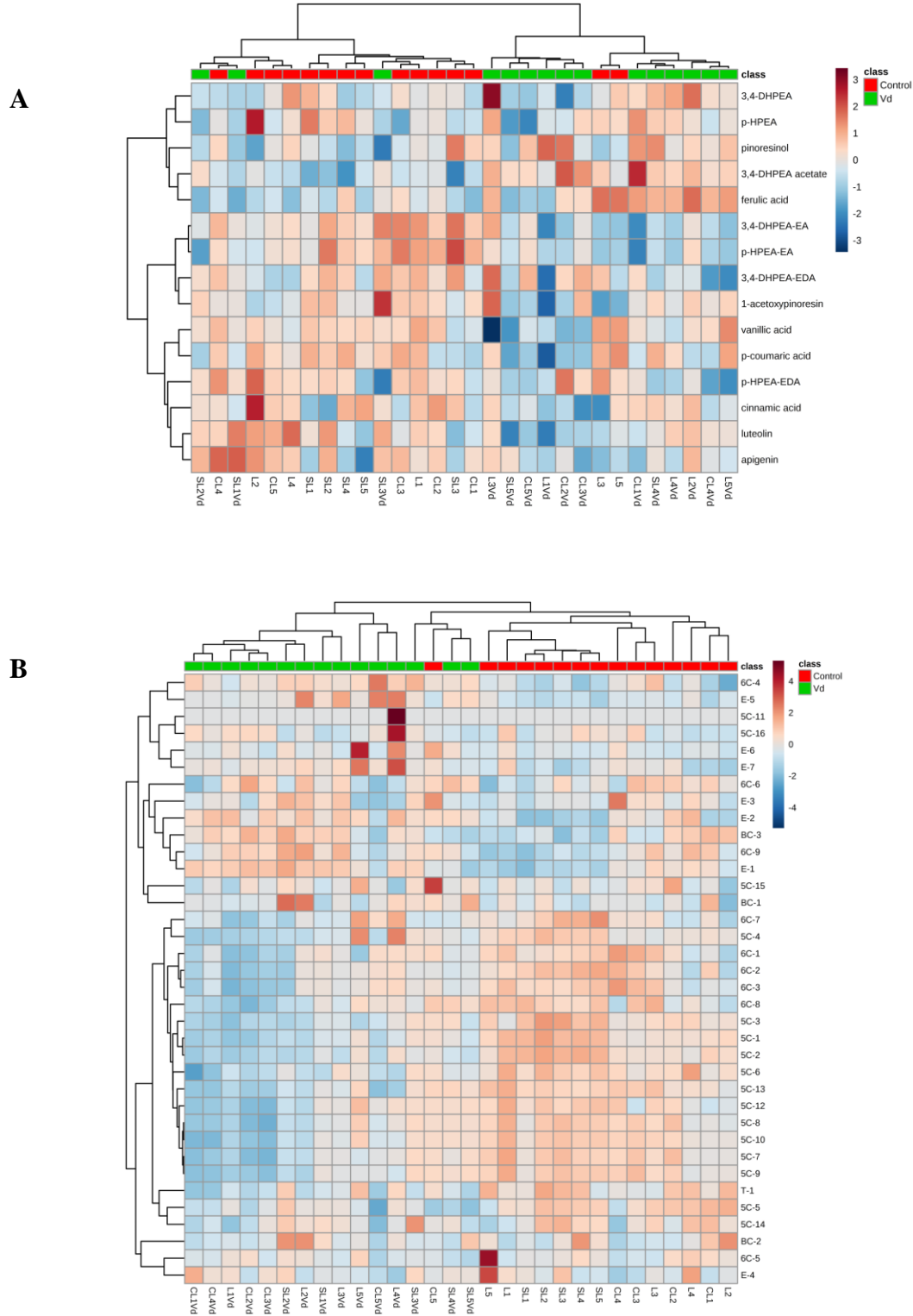
Compound ^b	Sandy-Loam				Clay-Loam				Loam				ANOVA Analysis		
	Vd inoculated ^a		Control		Vd inoculated		Control		Vd inoculated		Control		Inoculation Treatment	Soil Type	Inoculation treatment x Soil Type
Total phenols	334.76		406.84 *		297.60		402.17 *		306.93		339.66 *		0.007	0.278	0.473
Volatiles compounds (ng/g)															
6C-1	345.82		455.94 *		281.62		540.49 *		310.80		423.24 *		0.002	0.719	0.336
6C-2	1369.27		B	3812.97 *	1119.03		C	2712.30 *	1587.76		A	1704.47	<0.001	0.030	0.008
6C-3	692.54		1005.80 *		588.81		1020.76 *		735.03		902.40 *		0.001	0.903	0.429
6C-4	15308.23		*	9666.24	15835.86		*	11789.79	14083.86		*	12103.92	0.001	0.587	0.368
6C-5	14.67		18.19		14.68		16.91		18.16		42.79		0.247	0.302	0.496
6C-6	1247.36		1091.88		1082.14		1331.00		1215.01		1102.68		0.955	0.934	0.278
6C-7	172.59		339.54		177.46		205.41		253.72		192.53		0.103	0.155	0.006
6C-8	665.12		825.15		489.42		682.42 *		593.39		789.76 *		0.002	0.053	0.950
6C-9	309.33		172.71		264.06		291.32		355.20		262.97		0.064	0.293	0.157
5C-1	540.66		A	1148.46 A*	334.69		B	678.27 B*	466.70		AB	810.51 B*	<0.001	<0.001	0.032
5C-2	21.15		AB	76.71 *	13.62		B	37.04 *	23.21		A	41.07 *	<0.001	<0.001	<0.001
5C-3	65.87		A	108.78 A*	50.51		B	75.86 B*	54.35		B	79.50 B*	<0.001	<0.001	0.108
5C-4	204.69		360.81		134.20		242.31		342.82		256.49		0.147	0.065	0.046
5C-5	487.92		688.88 *		389.95		570.96 *		527.93		657.95 *		0.001	0.111	0.821
5C-6	37.48		A	49.49 A*	27.72		B	42.95 B*	35.89		A	50.29 A*	<0.001	0.008	0.821
5C-7	225.12		310.27 *		114.61		296.39 *		174.44		295.80 *		<0.001	0.124	0.265
5C-8	211.73		289.45 *		106.32		265.73 *		187.01		255.41 *		<0.001	0.067	0.185
5C-9	1037.40		1307.50 *		562.93		1259.04 *		740.36		1216.52 *		<0.001	0.051	0.146
5C-10	1032.38		A	1457.11 A*	442.64		B	1267.62 B*	833.99		AB	1343.23 AB*	<0.001	0.017	0.267
5C-11	0.00		0.00		0.00		0.00		75.16		0.00		0.327	0.383	0.383
5C-12	894.42		A	1145.41 A*	506.96		B	917.85 B*	836.44		AB	1041.46 AB*	0.002	0.019	0.591
5C-13	941.10		A	1207.30 A*	387.37		B	1176.42 B*	679.68		AB	1327.09 AB*	<0.001	0.032	0.062
5C-14	125.05		A	130.18 A	85.15		B	104.59 B	98.66		AB	108.90 AB	0.206	0.018	0.804

Compound ^b	Sandy-Loam			Clay-Loam			Loam			ANOVA Analysis		
	Vd inoculated ^a		Control	Vd inoculated		Control	Vd inoculated		Control	Inoculation Treatment	Soil Type	Inoculation treatment x Soil Type
5C-15	12.98		11.50	11.62		19.83	12.25		11.00	0.377	0.224	0.104
5C-16	6.40		7.95	9.09		7.72	13.64		7.04	0.317	0.473	0.293
E-1	373.38	*	115.61	395.53	*	259.17	406.40	*	227.90	0.001	0.313	0.574
E-2	40.79	B*	14.38	42.20	AB*	38.66	61.11	A*	34.45	0.001	0.009	0.109
E-3	907.59		641.48	635.70		1231.49	800.79		735.12	0.503	0.507	0.031
E-4	15.41		14.15	14.96		11.36	12.26		20.70	0.504	0.324	0.024
E-5	64.89	*	7.92	357.70	*	13.13	761.63	*	23.73	0.029	0.225	0.255
E-6	47.78		38.41	38.80		53.15	100.29		41.16	0.218	0.241	0.122
E-7	13.59	*	10.38	14.79	*	13.81	25.47	*	12.11	0.015	0.059	0.075
BC-1	36.14		22.36	23.20		28.81	31.16		19.42	0.131	0.723	0.145
BC-2	30.95		28.24	16.56		20.44	28.21		27.30	0.987	0.174	0.858
BC-3	52.16		22.31	57.21		52.61	53.88		42.78	0.132	0.341	0.554
T-1 (limonene)	43.32		77.80	25.62	*	57.54	53.22	*	75.84	0.001	0.062	0.818
C6/LnA	19150.48	*	16390.55	19099.61	*	17616.67	18204.34	*	16472.02	0.027	0.804	0.908
C6/LA	974.45		997.87	753.48	*	973.74	948.59	*	1052.74	0.031	0.072	0.299
C5/LnA	5699.94	A	8150.17	3071.51	B	6830.42	4978.00	AB	7375.33	<0.001	0.002	0.320
C5/LA	144.43		149.63	105.87		132.15	124.55		126.94	0.239	0.058	0.540
Esters	1463.43	*	842.33	1499.68		1620.79	2167.93	*	1095.17	0.018	0.146	0.048
BC	119.24		72.90	96.97		101.86	113.25		89.49	0.166	0.959	0.405
Terpenes	43.32		77.80	25.62	*	57.54	53.22	*	75.84	0.001	0.060	0.822
Total volatiles	27595.28		26681.24	24652.74		27333.17	26589.88		26287.53	0.763	0.842	0.623

^a Means in a row followed by different letters indicate significant differences ($P < 0.05$) among soil types within each inoculation treatment, according to Tukey HSD test. Means followed by an asterisk indicate that are significantly higher ($P < 0.05$) than those in the other inoculation treatment within each soil type.

^b Name of compounds is shown in Table 1.

Supplementary Figure 1. Hierarchical cluster analysis and heatmap of quantified phenolic compounds (**A**) and volatile compounds (**B**) in the oils extracted from olive trees grown in three different soils (L: loam; CL: clay-loam; and, SL: sandy-loam) infected (Vd) and non-infected (control) by *D-Verticillium dahliae*. Numbers correspond to the VOO extracted from trees grown in each of five blocks in the experimental plot.



Supplementary Table 3. Mean odor active values (OAV) of the main volatile compounds in oils extracted from olive trees grown in three different soils (sandy-loam, clay-loam, and loam) infected (Vd) and non-infected (control) by *D-Verticillium dahliae*.

Compound	Code	Descriptor	Sandy-Loam		Clay-Loam		Loam	
			Vd inoculated	Control	Vd inoculated	Control	Vd inoculated	Control
(E)-hex-3-enal	6C-1	Not defined	0.77	1.01	0.63	1.20	0.69	0.94
(Z)-hex-3-enal	6C-2	Green, leaf-like	8.05	22.43	6.58	15.95	9.34	10.03
(Z)-hex-2-enal	6C-3	Not defined	1.63	2.37	1.39	2.41	1.73	2.13
(E)-hex-2-enal	6C-4	Green, apple-like	36.10	22.80	37.35	27.81	33.22	28.55
(E)-hex-3-enol	6C-5	Green	0.01	0.01	0.01	0.01	0.01	0.03
(Z)-hex-3-enol	6C-6	Green, leaf-like	1.13	0.99	0.98	1.21	1.10	1.00
(E)-hex-2-enol	6C-7	Green grass, leaves	0.03	0.07	0.04	0.04	0.05	0.04
hexanal	6C-8	Green apple, grassy	2.22	2.75	1.63	2.27	1.98	2.63
hexan-1-ol	6C-9	Fruit, undesirable	0.77	0.43	0.66	0.73	0.89	0.66
pent-1-en-3-one	5C-1	Green, pungent	740.63	1573.23	458.47	929.13	639.31	1110.29
(Z)-pent-2-enal	5C-2	Not defined	0.07	0.26	0.05	0.12	0.08	0.14
(E)-pent-2-enal	5C-3	Green, apple	0.22	0.36	0.17	0.25	0.18	0.27
pent-1-en-3-ol	5C-4	Pungent, butter	0.51	0.90	0.34	0.61	0.86	0.64
(Z)-pent-2-en-1-ol	5C-5	Banana	1.95	2.76	1.56	2.28	2.11	2.63
(E)-pent-2-en-1-ol	5C-6	Pungent green fruity	0.15	0.20	0.11	0.17	0.14	0.20
pentene dimer - 1	5C-7	Alcane	0.02	0.02	0.01	0.02	0.01	0.02
pentene dimer - 2	5C-8	Alcane	0.02	0.02	0.01	0.02	0.01	0.02
pentene dimer - 3	5C-9	Alcane	0.08	0.10	0.04	0.09	0.05	0.09
pentene dimer - 4	5C-10	Alcane	0.08	0.11	0.03	0.09	0.06	0.10
pentene dimer - 5	5C-11	Alcane	0.00	0.00	0.00	0.00	0.01	0.00
pentene dimer - 6	5C-12	Alcane	0.07	0.08	0.04	0.07	0.06	0.08
pentene dimer - 7	5C-13	Alcane	0.07	0.09	0.03	0.09	0.05	0.10
pentan-3-one	5C-14	Sweet, fruity	0.02	0.02	0.01	0.01	0.01	0.02
pentanal	5C-15	Woody, bitter, oily	0.05	0.05	0.05	0.08	0.05	0.05
pentan-1-ol	5C-16	Fruity	0.01	0.02	0.02	0.02	0.03	0.01
hexyl acetate	E-1	Green, fruity, sweet	0.36	0.11	0.38	0.25	0.39	0.22
(E)-hex-2-en-1-yl acetate	E-2	Fruity	0.20	0.07	0.21	0.19	0.31	0.17
(Z)-hex-3-en-1-yl acetate	E-3	Green, banana-like	4.54	3.21	3.18	6.16	4.00	3.68
methyl acetate	E-4	Solvent, fruit	0.08	0.07	0.07	0.06	0.06	0.10
ethyl acetate	E-5	Sticky, sweet	0.07	0.01	0.38	0.01	0.81	0.03
methyl hexanoate	E-6	Pineapple	0.09	0.07	0.07	0.10	0.19	0.08
ethyl hexanoate	E-7	Apple peel	0.03	0.02	0.03	0.03	0.05	0.02
2-methyl-butanal	BC-1	Malty	6.69	4.14	4.30	5.33	5.77	3.60
3-methyl-butanal	BC-2	Malty	5.95	5.43	3.19	3.93	5.43	5.25
2-methyl-butan-1-ol	BC-3	Winey, spicy	0.11	0.05	0.12	0.11	0.11	0.09
limonene	T-1	Citruslike, ethereal	0.17	0.31	0.10	0.23	0.21	0.30