

Supplementary materials

Table S1. Parameters used to validate the relative-quantification method of the VOCs produced by olive trees following the application of *Trichoderma* strains or metabolites. Data include compound name (VOC), retention time (Rt, min), calibration curve and R², limits of detection and quantification (LOD and LOQ, respectively), Intraday and Interday repeatability expressed as relative standard deviation (RSD %) on 3 replicates (n=3).

VOC	Rt (min)	Calibration curve	R ²	LOD	LOQ	Intraday RSD% (n = 3)	Interday RSD% (n = 3)
Hexanol, 2-ethyl	7.6	$y = 4,9x + 5,4$	0.9988	3.00	10.00	1.8	2
Acetophenone	8.2	$y = 2x + 8$	1	3.00	10.00	0.7	1
4-Methyl-Benzaldehyde, 4-Methyl	9.0	$y = 1,15x + 0,9667$	0,9994	3.54	11.51	0.9	1.2
Benzyl alcohol	7.8	$y = 1,25x + 1,4667$	0.995	3.00	10.00	2.1	2.4
Copaene	13.0	$y = 0,7x + 0,2667$	0.9932	3.00	10.00	0.5	1.0
Cumyl alcohol	9.15	$y = 1,05x - 0,1667$	0.9643	3.06	10.18	1.4	1.3
DMNT	10.6	$y = 6,75x - 0,3333$	0.9995	3.00	10.00	1.8	1.7
Funebrene	13.2	$y = 2,45x + 0,0667$	0.9999	3.00	10.00	0.9	1.2
Isophorone	12.0	$y = 2x - 1,2$	0.9709	3.04	10.15	1.7	1.9
Limonene	7.0	$y = 2,25x + 0,3333$	0.9959	1.33	10.02	2.1	2.4
Methyl benzoate	9.8	$y = 2,4x + 1,5333$	0.9977	3.00	10.00	1.1	1.4
Methyl salicylate	10.4	$y = 1,2x + 0,7667$	0.9977	3.00	10.00	1.3	1.5
Muurolene	18.8	$y = 1,3x - 0,2$	0.9826	3.03	10.08	2.0	1.8
Myrcene	4.0	$y = 5,75x - 3$	0.9514	3.07	10.25	2.0	1.8
Nonanal	10.5	$y = 6,75x - 2,9333$	0,9702	3.04	10.15	0.9	1.1
Nonane	3.4	$y = 1,3x + 0,7$	1	3.00	10.00	0.5	0.7
Phenol	4.6	$y = 0,4x + 0,05$	0.9552	3.07	10.23	3.0	2.5
Pinene	3.6	$y = 3,05x - 1,8333$	0.9748	3.04	10.13	1.5	1.8
t-Ocimene	7.15	$y = 1,5x$	1	3.00	10.00	3.0	2.7

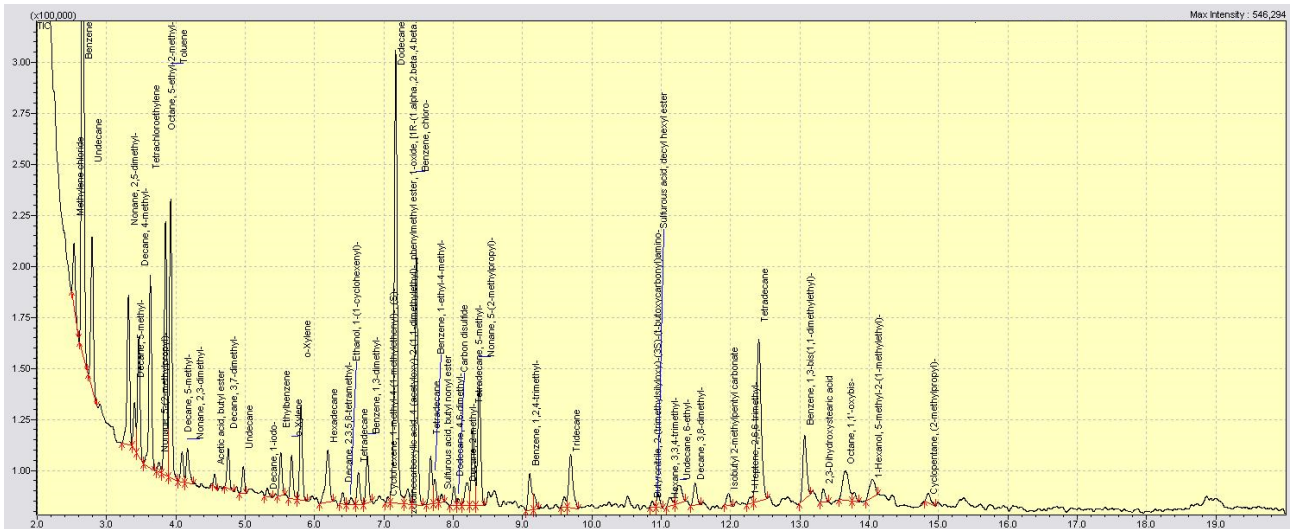


Figure S1. Example of an integrated gas chromatogram resulting from the extraction of plant VOCs sampled by Radiello® cartridges.

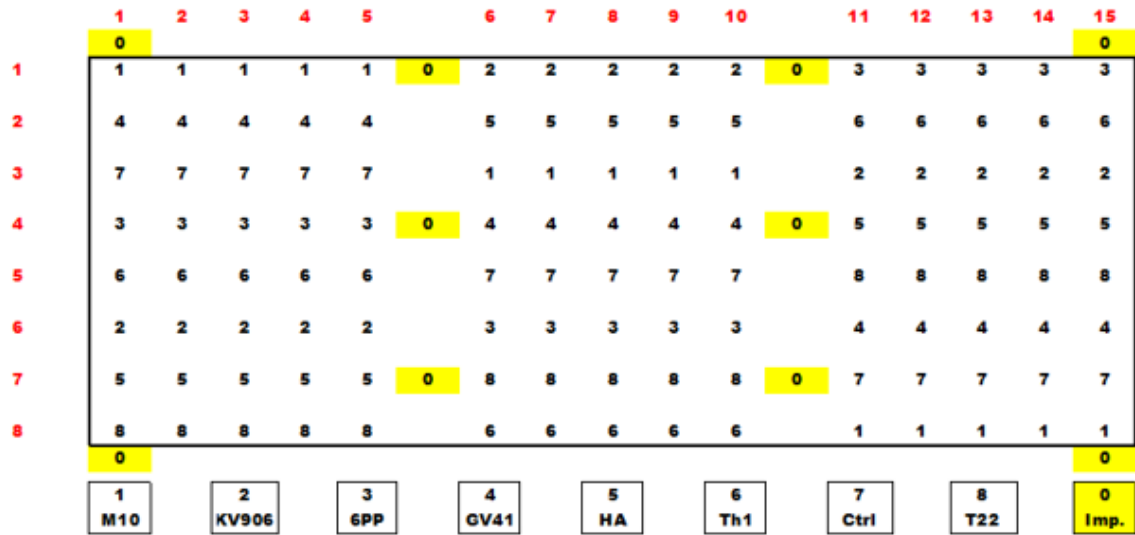


Figure S2. Randomized block design of field experiment. Treatments: *Trichoderma harzianum* strains M10, T22, and TH1, *T. asperellum* strain KV906, *T. virens* strain GV41, harzianic acid (HA) and 6-pentyl- α -pyrone (6PP). Numbers in the figure represent the treatments as indicated in the boxes below the scheme. The following parameters were used: N° of plants per treatment: 15; Plant layout: 1.30m x1.30m plant-plant; concentration of *Trichoderma* spore suspensions: $1 \cdot 10^7$ spore/mL; concentration of *Trichoderma* metabolite solutions: $1 \cdot 10^{-5}$ M.



Figure S3. Application of the Radiello® cartridges to olive trees.