Supplementary information

Fungal β-glucosidase gene and corresponding enzyme activity are positively related to soil organic carbon in unmanaged woody plantations.

Saccà ML [a]*, Caputo F [a], Ceotto E [b], Fornasier F [c]

[a] CREA - Council for Agricultural Research and Economics, Research Centre for Agriculture and Environment, Via di Corticella 133, 40128 Bologna, Italy.

[b] CREA - Council for Agricultural Research and Economics, Animal Production and Aquaculture, Via Beccastecca 345, 41018, San Cesario sul Panaro (MO), Italy.

[c] CREA - Council for Agricultural Research and Economics, Research Centre for Viticulture and Enology, Via Trieste 23, 34170 Gorizia, Italy.

*Corresponding author: Maria Ludovica Saccà, CREA-AA, Via di Corticella 133, 40128 Bologna, Italy. E-mail marialudovica.sacca@crea.gov.it

Table S1 – Description of the standard curves for functional gene quantification in soil by qPCR. *Fusarium oxysporum* isolate Fox59 from the CREA-AA culture collection (Acc. n. KJ562372).

Target	Standard DNA	Primers	Slope	Y-Intercept	R^2	Efficiency
cellulase bacteria and fungi	*F. oxysporum*	GH6cell2F/R	-3.57	39.22	0.98	90.65 %
endoglucanase bacteria and fungi	*F. oxysporum*	fungGH5-5F/R	-3.55	38.44	1.00	91.13 %
endoxylanase fungi	*F. oxysporum*	fungGH11F/R	-3.30	35.67	0.99	101.05 %
β-glucosidase bacteria	Willow soil	βgluF2/R4	-3.98	40.10	1.00	78.26 %
β-glucosidase fungi	*F. oxysporum*	bglFGH3F/R	-3.41	35.42	1.00	96.54 %

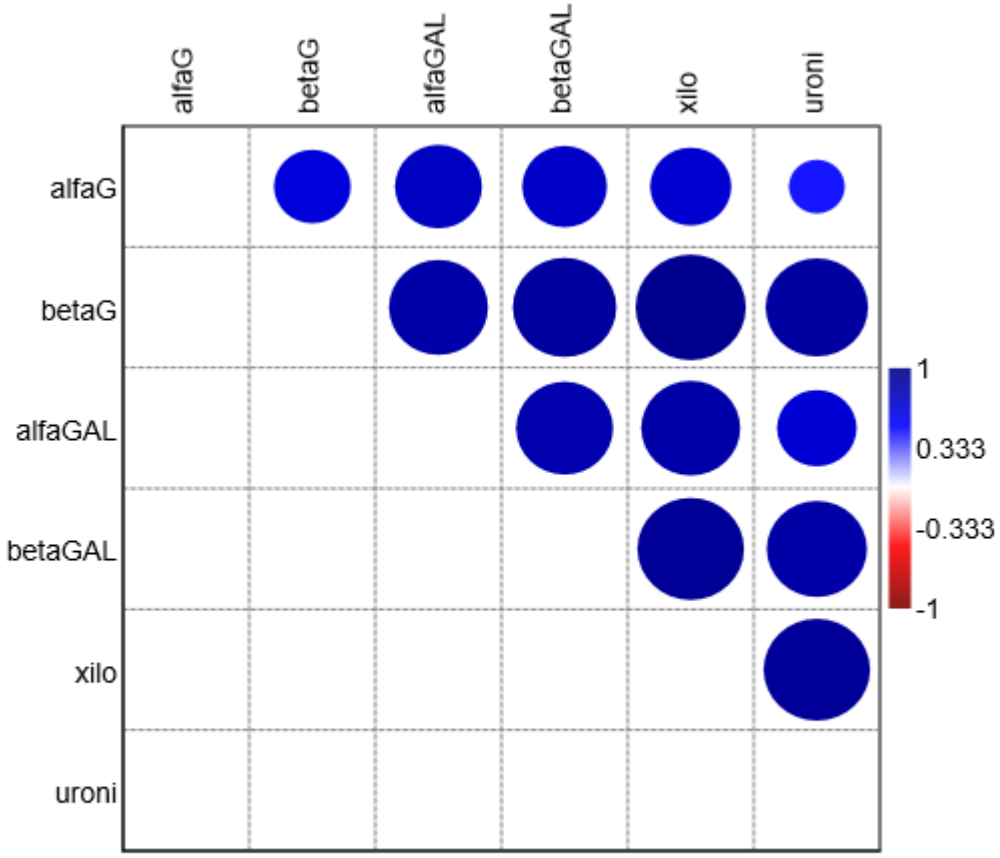

Figure S1 - Correlation table plot of the enzymatic activities α-glucosidase (alfaG), β-glucosidase (betaG), α-galactosidase (alfaGAL), β-galactosidase (betaGAL), xilosidase (xilo), β-D-glucuronidase (uroni) measured in soil samples (n=24). The positive r Pearson's correlation coefficients are shown as blue circles (P<0.05).