

Table S1. Two-way ANOVA results. Significant differences were observed at $p < 0.05^*$, $p < 0.01^{**}$ and $p < 0.001^{***}$. Not significant (ns) at a $p < 0.05$.

Variable	Factors	F	p
BD	Soil management	15.4124	***
	Slope	65.9989	***
	Soil management $\times$ Slope	0.0010	ns
SWC	Soil management	51.712	***
	Slope	330.026	***
	Soil management $\times$ Slope	1.901	ns
WHC	Soil management	1.03	ns
	Slope	215.67	***
	Soil management $\times$ Slope	3.66	ns
MWD	Soil management	52.144	***
	Slope	116.097	***
	Soil management $\times$ Slope	0.313	ns
WSA	Soil management	89.043	***
	Slope	6.013	*
	Soil management $\times$ Slope	0.235	ns
SOM	Soil management	1026.86	***
	Slope	186.21	***
	Soil management $\times$ Slope	11.71	**
PT	Soil management	22.6564	***
	Slope	7.7109	**
	Soil management $\times$ Slope	14.7410	***
RT	Soil management	1.591	ns
	Slope	20.366	***
	Soil management $\times$ Slope	41.400	***
IR	Soil management	38.170	***
	Slope	12.506	**
	Soil management $\times$ Slope	3.618	ns
Run	Soil management	38.9412	***
	Slope	12.4752	**
	Soil management $\times$ Slope	3.6912	ns
SC	Soil management	155.9929	***
	Slope	2.7573	ns
	Soil management $\times$ Slope	17.9690	***
SL	Soil management	213.82	***
	Slope	5.03	*
	Soil management $\times$ Slope	19.72	***
SOM loss	Soil management	118.2507	***
	Slope	0.7311	ns
	Soil management $\times$ Slope	13.8874	***

Table S2. Supplementary data

Treatment	BD (g cm ³)	SWC (%)	WHC (%)	MWD (mm)	WSA (%)	SOM (%)	PT (sec)	RT (sec)	Infiltration rate (%)	Water runoff (m ³ ha ⁻¹)	Sediment concentration (g kg ⁻¹)	Sediment loss (kg ha ⁻¹)	SOM loss (kg ha ⁻¹)
Hazelnut mulched - high slope	1.30	15.5	46.1	2.58	81.05	1.75	193	271	54.30	132.53	1.69	223.60	4.07
Hazelnut mulched - high slope	1.24	17.0	42.3	3.11	58.42	1.64	349	311	71.11	83.78	2.44	204.21	3.59
Hazelnut mulched - high slope	1.47	14.3	43.8	1.79	65.79	1.68	204	273	62.89	107.61	0.68	73.05	1.28
Hazelnut mulched - high slope	1.46	15.9	42.0	2.69	82.89	1.72	260	275	77.08	66.48	2.96	196.73	3.72
Hazelnut mulched - high slope	1.45	14.1	42.3	2.60	83.68	1.78	232	280	74.11	75.08	2.46	184.37	3.50
Hazelnut mulched - high slope	1.34	14.5	42.7	2.61	88.42	1.82	314	348	70.71	84.95	1.45	123.39	2.37
Hazelnut mulched - high slope	1.45	14.6	44.5	2.24	80.79	1.85	378	258	52.26	138.44	1.23	170.36	3.31
Hazelnut mulched - high slope	1.35	13.0	41.9	2.42	68.68	1.75	116	235	80.35	56.99	5.66	322.45	5.97
Hazelnut mulched - high slope	1.30	14.4	44.4	2.94	81.32	1.70	218	219	56.66	125.68	2.52	316.71	5.76
Hazelnut mulched - high slope	1.45	21.1	46.4	3.29	82.41	1.77	160	263	79.75	58.73	1.91	112.02	2.05
Hazelnut herbicide -high slope	1.40	11.0	43.9	1.33	60.26	1.20	95	366	55.53	128.97	19.48	2511.82	32.90
Hazelnut herbicide -high slope	1.37	12.2	42.9	1.91	59.74	1.16	132	443	52.97	136.38	10.32	1407.80	18.58
Hazelnut herbicide -high slope	1.53	13.8	44.6	1.72	56.58	1.35	112	429	53.28	135.50	20.60	2791.55	40.48
Hazelnut herbicide -high slope	1.36	13.5	42.9	2.43	63.16	1.22	67	553	40.51	172.51	17.25	2976.43	60.12
Hazelnut herbicide -high slope	1.43	14.4	43.2	1.84	69.47	1.24	95	408	45.44	158.22	11.72	1853.78	37.26
Hazelnut herbicide -high slope	1.57	11.5	42.2	2.06	47.11	1.18	130	611	61.75	110.94	10.16	1127.03	14.65
Hazelnut herbicide -high slope	1.41	12.0	41.6	2.21	59.21	1.30	108	378	55.17	130.02	6.82	886.25	12.58
Hazelnut herbicide -high slope	1.57	14.7	42.7	1.85	62.89	1.25	93	292	31.86	197.60	13.48	2664.58	31.97
Hazelnut herbicide -high slope	1.64	13.0	42.0	2.32	64.12	1.20	99	436	34.02	191.36	23.27	4453.26	62.79

Hazelnut herbicide -high slope	1.45	10.6	45.4	2.35	63.15	1.27	101	379	44.13	162.03	12.73	2061.82	27.83
Hazelnut mulched - low slope	1.55	25.0	37.7	3.69	75.00	2.05	300	660	69.13	89.53	2.16	193.56	6.21
Hazelnut mulched - low slope	1.63	22.8	29.1	3.81	76.92	2.07	300	540	62.56	108.58	4.03	437.87	13.27
Hazelnut mulched - low slope	1.53	24.1	33.3	3.69	69.44	2.02	180	420	73.96	75.52	2.68	202.33	4.09
Hazelnut mulched - low slope	1.55	23.6	37.4	3.58	72.97	2.05	120	360	82.30	51.32	2.56	131.20	2.60
Hazelnut mulched - low slope	1.56	26.4	35.4	3.80	75.79	2.11	232	510	74.15	83.67	2.94	248.48	8.50
Hazelnut mulched - low slope	1.57	24.9	33.3	3.58	71.38	1.99	218	480	69.83	78.80	2.77	234.00	5.19
Hazelnut mulched - low slope	1.55	25.7	34.4	3.69	73.59	2.05	225	495	71.99	81.24	2.86	241.24	6.71
Hazelnut mulched - low slope	1.57	24.7	36.1	3.88	77.26	2.15	236	520	75.59	85.30	3.00	253.30	8.08
Hazelnut mulched - low slope	1.56	24.4	32.7	3.51	69.91	1.95	214	470	68.39	77.17	2.71	229.18	7.47
Hazelnut mulched - low slope	1.56	25.9	34.7	3.73	74.32	2.07	227	500	72.71	82.05	2.89	243.65	8.04
Hazelnut mulched - low slope	1.65	20.0	36.2	3.38	50.00	1.42	240	420	52.86	136.71	8.05	1100.87	11.67
Hazelnut mulched - low slope	1.69	22.2	33.8	2.88	55.00	1.46	180	360	58.34	120.83	12.45	1503.76	48.27
Hazelnut mulched - low slope	1.58	20.2	36.6	2.99	57.89	1.38	240	360	67.68	93.73	4.74	444.71	11.12
Hazelnut mulched - low slope	1.57	20.2	37.4	2.59	57.14	1.42	180	420	65.82	99.13	5.30	525.34	12.77
Hazelnut mulched - low slope	1.62	21.3	37.1	3.05	56.66	1.46	216	402	63.01	115.98	7.86	920.48	21.72