

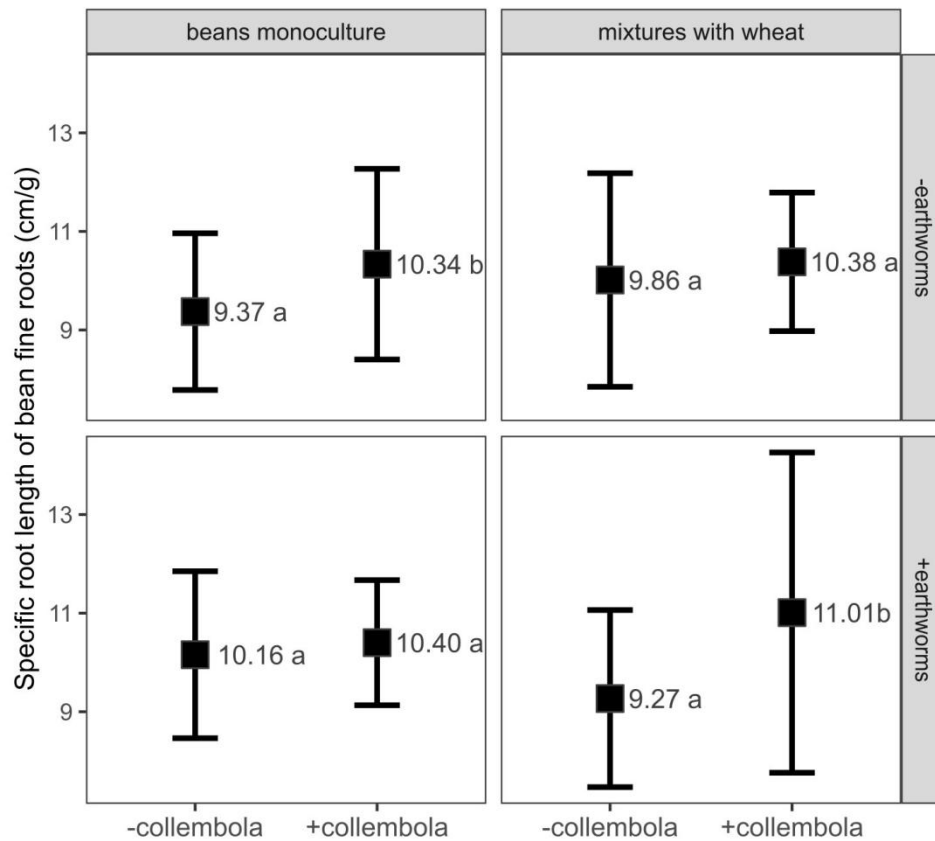


Figure S1 Specific root length of bean fine roots as affected by collembolans, earthworms and mixed cropping with wheat; means with 95% confidence intervals, means sharing the same letter do not differ significantly (Tukey's post hoc pairwise comparison, $p < 0.05$).

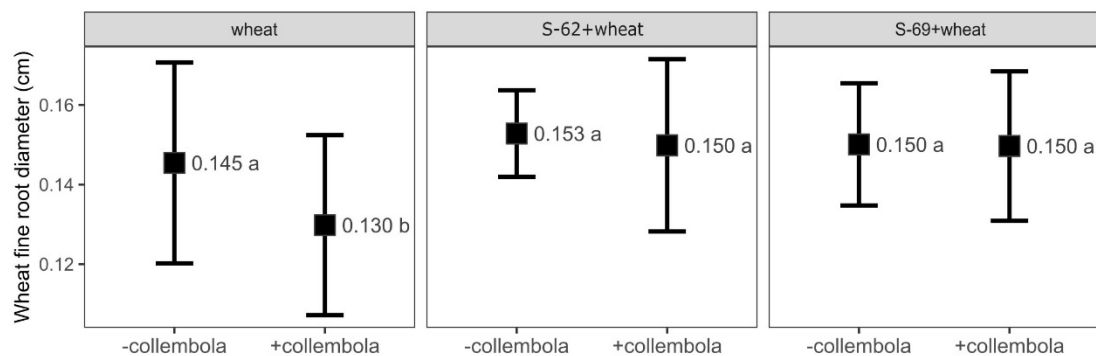


Figure S2 Interactive effects of plant type (wheat monoculture, mixed cropping of wheat and bean genotype S-62 or S-69) and collembola on wheat fine root diameter. Means with 95% confidence intervals, means sharing the same letter do not differ significantly (Tukey's post hoc pairwise comparison, $p < 0.05$).

Table S1. Biomass changes of earthworms, numbers of collembola, and $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ values of collembola and earthworms in plant treatments (bean genotype S-62, bean genotype S-69, wheat, mixture of wheat and S-62, mixture of wheat and S-69) (a), and animal treatments (with and without collembola or earthworms) (b); lower.CL and upper.CL represent the lower and upper bounds of the confidence intervals of the means; capital letters indicate significant differences of respective variables between plant (a) and animal treatments (b); means sharing the same letter do not differ significantly, Tukey's post hoc pairwise comparison, $p < 0.05$.

Treatment	Animal variable	value	df	lower. CL	upper. CL	sig_no te
(a) Plant treatment						
S-62	Changes in earthworm biomass	0.26	24	0.19	0.32	A
S-69	Changes in earthworm biomass	0.31	24	0.25	0.38	A
S-62 + wheat	Changes in earthworm biomass	0.21	24	0.14	0.27	A
S-69 + wheat	Changes in earthworm biomass	0.29	24	0.23	0.36	A
wheat	Changes in earthworm biomass	0.26	15	0.20	0.33	A
S-62	Number of collembola	777.38	23	272.61	1282.14	AB
S-69	Number of collembola	169.88	23	375.34	715.09	A
S-62 + wheat	Number of collembola	771.75	23	266.98	1276.52	AB
S-69 + wheat	Number of collembola	1186.8	23	682.11	1691.64	B
wheat	Number of collembola	513	15	56.20	970.00	AB
S-62	$\delta^{15}\text{N}$ of collembola	72.62	23	60.34	84.90	A
S-69	$\delta^{15}\text{N}$ of collembola	84.29	23	71.02	97.55	A
S-62 + wheat	$\delta^{15}\text{N}$ of collembola	71.64	23	59.36	83.92	A
S-69 + wheat	$\delta^{15}\text{N}$ of collembola	88.59	23	76.31	100.87	A
wheat	$\delta^{15}\text{N}$ of collembola	295.50	15	272.10	319.00	B
S-62	$\delta^{13}\text{C}$ of earthworms	-18.00	24	-19.18	-16.82	A
S-69	$\delta^{13}\text{C}$ of earthworms	-16.80	24	-17.98	-15.61	A
S-62 + wheat	$\delta^{13}\text{C}$ of earthworms	-18.77	24	-19.95	-17.58	A
S-69 + wheat	$\delta^{13}\text{C}$ of earthworms	-17.45	24	-18.63	-16.26	A
wheat	$\delta^{13}\text{C}$ of earthworms	-17.90	15	-19.10	-16.70	A
S-62	$\delta^{15}\text{N}$ of earthworms	170.73	24	131.80	209.66	A
S-69	$\delta^{15}\text{N}$ of earthworms	190.25	24	151.32	229.18	A
S-62 + wheat	$\delta^{15}\text{N}$ of earthworms	140.93	24	102.00	179.86	A
S-69 + wheat	$\delta^{15}\text{N}$ of earthworms	165.91	24	126.98	204.84	A
wheat	$\delta^{15}\text{N}$ of earthworms	154.00	15	116.00	192.00	A

**(b) Animal
treatment**

Changes in earthworm						
-collembola	biomass	0.29	24	0.25	0.34	A
+collembola	Changes in earthworm biomass	0.25	24	0.20	0.29	A
-earthworm	Number of collembola	481.50	23	110.00	853.00	A
+earthworm	Number of collembola	971.44	23	614.51	1328.36	A
-earthworm	$\delta^{13}\text{C}$ of collembola	-25.15	23	-25.54	-24.75	A
+earthworm	$\delta^{13}\text{C}$ of collembola	-24.81	23	-25.19	-24.44	A
-earthworm	$\delta^{15}\text{N}$ of collembola	73.85	23	64.81	82.89	A
+earthworm	$\delta^{15}\text{N}$ of collembola	84.71	23	76.03	93.40	A
-collembola	$\delta^{13}\text{C}$ of earthworms	-17.89	24	-18.72	-17.05	A
+collembola	$\delta^{13}\text{C}$ of earthworms	-17.62	24	-18.45	-16.78	A
-collembola	$\delta^{15}\text{N}$ of earthworms	161.95	24	134.43	189.48	A
+collembola	$\delta^{15}\text{N}$ of earthworms	171.96	24	144.43	199.48	A

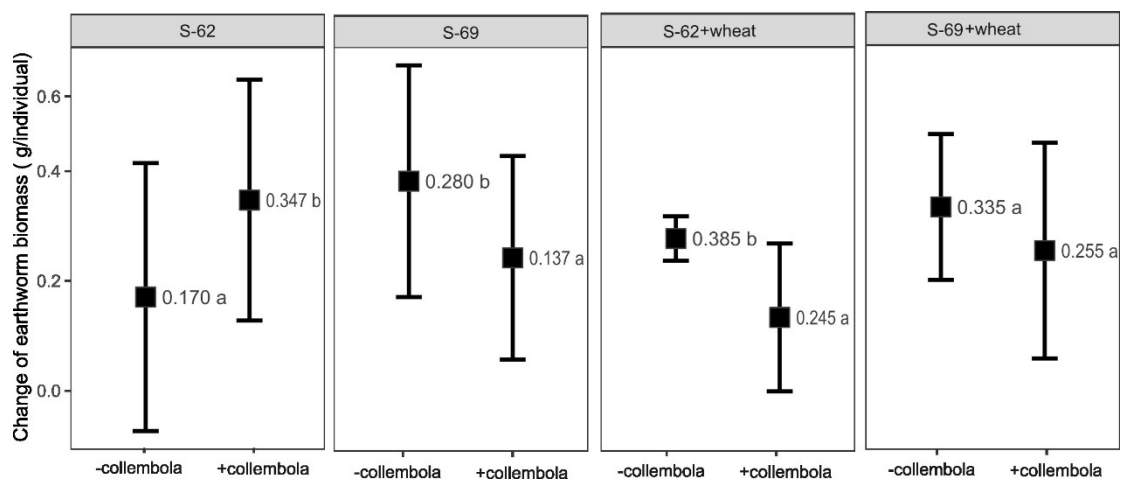


Figure S3 Interactive effects of bean genotype, mixed cropping with wheat and presence of collembola on the change in earthworm biomass during the experiment. Means with 95% confidence intervals; means sharing the same letter do not differ significantly (Tukey's post hoc pairwise comparison, $p < 0.05$).