

Figure S1 Taxonomic profiles of bacteria (a) and fungi (b) communities at phylum level. Bacteria and fungi phyla with relative abundances lower than 1% were summarized with ‘other’.

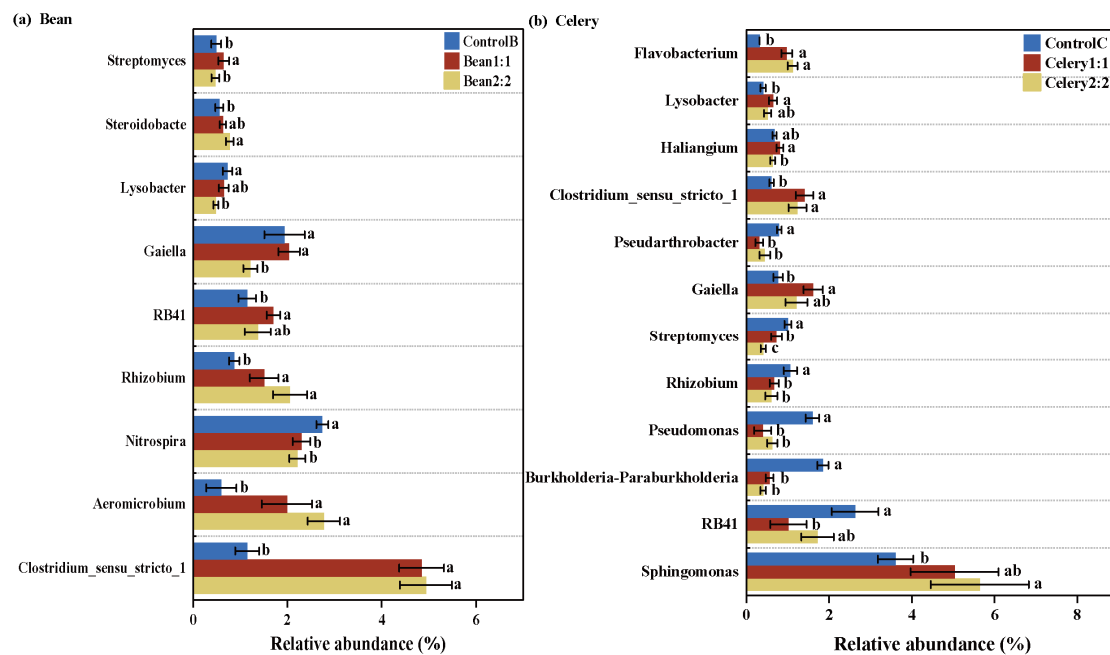


Figure S2 Bacterial genus with average relative abundances > 0.5% altered by rotational strip intercropping of bean (a) and celery (b). Values (mean \pm standard error) in the same column followed by different letters are significantly different ($p < 0.05$, Tukey's HSD test).

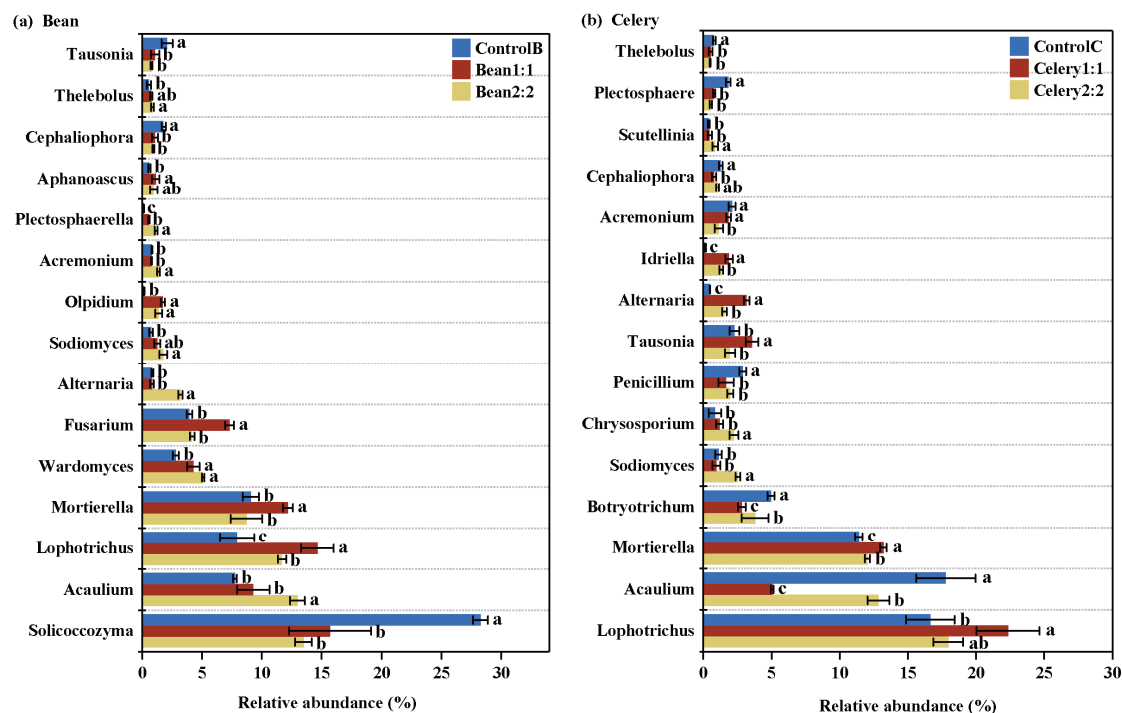


Figure S3 Fungi genus with average relative abundances > 0.5% altered by rotational strip intercropping of bean (a) and celery (b). Values (mean \pm standard error) in the same column followed by different letters are significantly different ($p < 0.05$, Tukey's HSD test).

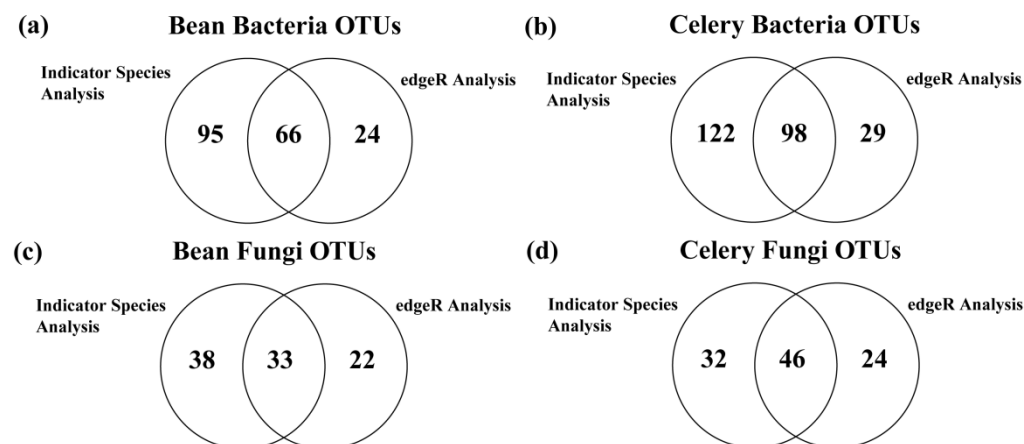


Figure S4 The Venn Diagram represent sensitive bacteria and fungi OTUs numbers in bean (a, b) and celery (c, d) samples.

Table S1 Effects of rotational strip bean and celery intercropping on *Pn* and Illuminance.

	2020Autumn		2021Spring		2021Autumn	
	Illuminance ($\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$)	Pn ($\mu\text{mol}(\text{CO}_2)\cdot\text{m}^{-2}\cdot\text{s}^{-1}$)	Illuminance ($\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$)	Pn ($\mu\text{mol}(\text{CO}_2)\cdot\text{m}^{-2}\cdot\text{s}^{-1}$)	Illuminance ($\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$)	Pn ($\mu\text{mol}(\text{CO}_2)\cdot\text{m}^{-2}\cdot\text{s}^{-1}$)
ControlB	597.5+18.13a	14.3+0.36c	460.0+23.75b	11.3+0.66c	472.5+18.13b	4.8+0.35a
Bean1:1	663.8+26.38a	18.8+0.20a	540.0+15.00a	16.8+1.06a	538.8+26.38a	4.3+0.15a
Bean2:2	547.5+32.63a	16.3+0.35b	478.8+28.51a	14.0+0.50b	422.5+32.63b	4.7+0.23a
ControlC	708.8+43.13a	15.2+1.23a	671.3+23.8a	10.9+0.70b	458.8+43.13a	4.9+0.32b
Celery1:1	113.8+12.00c	15.6+1.08a	327.5+15.63c	14.3+0.78a	76.3+12.00c	6.6+0.26a
Celery2:2	200.0+13.00b	16.3+1.18a	431.3+47.9b	15.0+0.61a	137.5+13.00b	5.2+0.25b

Values (mean \pm standard error) in the same column followed by different letters are significantly different ($p < 0.05$, Tukey's HSD test)