

Supplementary Table 1. Effect of enriched organic formulations on Apparent N budgeting under Pigeon pea-Vegetable mustard-Okra cropping system.

Treatment	Available soil N (initial)	Input			Total N uptake	Available soil N (final)	Apparent N balance
		RDN	BNF	Total N			
	1	2	3	2+3=4	5	6	4-5=7
T ₁ : Control	206.2	0	340	340	441.6	192.9	-88.3
T ₂ : FYM	206.2	420	340	760	730.7	222.4	13.1
T ₃ : RRC	206.2	420	340	760	650.9	216.4	98.9
T ₄ : PHA-F (100% RDN)	206.2	420	340	760	786.8	225.8	-46.4
T ₅ : PHA-F (75% RDN)	206.2	315	340	655	622.3	210.3	28.6
T ₆ : PPC-F (100% RDN)	206.2	420	340	760	770.1	227.3	-31.2
T ₇ : PPC-F (75% RDN)	206.2	315	340	655	616.1	215.1	30

Supplementary Table 2: Correlation matrix of organic carbon added via enriched formulations with total organic carbon, microbial population, and nutrient availability in soil at the end of two cropping cycles.

		Pearson's Correlations							
Variable		OC Added (kg ha ⁻¹)	TOC (%) at Harvest	MBC (µg C g ⁻¹ soil)	Bacteria (x10 ⁵ cfu)	Actinomycetes (x10 ² cfu)	Available N (kg ha ⁻¹)	Available P (kg ha ⁻¹)	Available K (kg ha ⁻¹)
1. OC Added (kg ha-1)	Pearson's r	—							
	p-value	—							
	Upper 95% CI	—							
	Lower 95% CI	—							
2. TOC (%) at Harvest	Pearson's r	0.822 *	—						
	p-value	0.023	—						
	Upper 95% CI	0.973	—						
	Lower 95% CI	0.181	—						
3. MBC (µg C g ⁻¹ soil)	Pearson's r	0.870 *	0.984 ***	—					
	p-value	0.011	< .001	—					
	Upper 95% CI	0.981	0.998	—					
	Lower 95% CI	0.339	0.895	—					
4. Bacteria (x10 ⁵ cfu)	Pearson's r	0.868 *	0.981 ***	0.989 ***	—				
	p-value	0.011	< .001	< .001	—				
	Upper 95% CI	0.980	0.997	0.998	—				
	Lower 95% CI	0.332	0.875	0.926	—				
5. Actinomycetes (x10 ² cfu)	Pearson's r	0.811 *	0.986 ***	0.989 ***	0.992 ***	—			
	p-value	0.027	< .001	< .001	< .001	—			
	Upper 95% CI	0.971	0.998	0.998	0.999	—			
	Lower 95% CI	0.150	0.906	0.922	0.944	—			
6. Available N (kg ha ⁻¹)	Pearson's r	0.915 **	0.891 **	0.940 **	0.958 ***	0.925 **	—		
	p-value	0.004	0.007	0.002	< .001	0.003	—		
	Upper 95% CI	0.988	0.984	0.991	0.994	0.989	—		
	Lower 95% CI	0.519	0.420	0.640	0.735	0.568	—		
7. Available P (kg ha ⁻¹)	Pearson's r	0.938 **	0.908 **	0.926 **	0.953 ***	0.908 **	0.971 ***	—	
	p-value	0.002	0.005	0.003	< .001	0.005	< .001	—	
	Upper 95% CI	0.991	0.986	0.989	0.993	0.987	0.996	—	
	Lower 95% CI	0.629	0.488	0.571	0.708	0.490	0.809	—	
8. Available K (kg ha ⁻¹)	Pearson's r	0.904 **	0.738	0.787 *	0.731	0.689	0.750	0.773 *	—
	p-value	0.005	0.058	0.036	0.062	0.087	0.052	0.041	—
	Upper 95% CI	0.986	0.958	0.967	0.957	0.949	0.960	0.965	—
	Lower 95% CI	0.471	-0.035	0.083	-0.048	-0.133	-0.008	0.049	—
* p < .05, ** p < .01, *** p < .001									

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