

Supplementary Materials: A New Composite Biomaterial Made from Sunflower Proteins, Urea and Soluble Polymers Obtained from Industrial and Municipal Biowastes to Perform as Slow Release Fertiliser

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Table S1. Calculated amount of N from each component (NSPC, NBP, NU) in the blended SPC-U, SPC-BP, SPC-BP-U pellets compared to the total N amount released in solution from the pellets. Calculations based on the 4 g sample weight (see Materials and Methods), on the composite formulations, and on Table 1 data.

Solid Sample Investigated	N_{ti}¹ (%, w/w)	N_{tas}² (g)	N_{SPC}³ (g)	N_{BP}⁴ (g)	N_U⁵ (g)	N_{rel1}⁶ (g)	N_{rel25}⁷ (g)
BP	6.59	-	-	-	-	-	-
U	46.6	-	-	-	-	-	-
SPC	6.90	0.276	-	-	-	0.0469	0.124
SPC-U	10.5	0.420	0.248	-	0.186	0.2460	0.336
SPC-BP	7.00	0.280	0.248	0.0264	-	0.0616	0.168
SPC-BP-U	8.50	0.340	0.248	0.0132	0.093	0.1560	0.272

¹ Total N concentration in solid sample reported in Table 1. ² Total N amount in 4 g soil sample at start calculated as $N_{tas} = 4 \times N_{ti} (\%)/100$. ³ SPC N contribution in N_{tas} of the composite solid sample at start calculated as $N_{SPC} = 4 \times (90/100) \times 0.069$, where 90 is the SPC concentration in the composite sample and 0.069 is the N concentration in the neat SPC sample divided by 100. ⁴ BP N contribution in N_{tas} of the composite solid sample at start calculated as follows: for the SPC-BP sample, $N_{BP} = 4 \times 0.0659 \times (10/100)$, where 10 is the BP concentration in the SPC-BP sample and 0.0659 is the N concentration in the neat BP sample divided by 100; for the SPC-BP-U sample, $N_{BP} = 4 \times 0.0659 \times (5/100)$, where 5 is the BP concentration in the SPC-BP-U sample and 0.0659 is the N concentration in the neat BP sample divided by 100. ⁵ U N contribution in N_{tas} of the composite solid sample at start calculated as follows: for the SPC-U sample, $N_U = 4 \times 0.466 \times (10/100)$, where 10 is the U concentration in the SPC-U sample and 0.466 is the N concentration in the neat U sample divided by 100. ⁶ Total N amount released in solution from the 4 g solid samples after 1 day (Figure 8). ⁷ Total N amount released in solution from the 4 g solid samples after 25 days (Figure 8).