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Biodegradation of poly(ϵ -caprolactone)/poly(lactic acid) composites: The effect of fiber load and compatibilization

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The novel poly(ϵ -caprolactone)/poly(lactic acid), (PCL/PLA) composites were prepared with palm press fibers by melt extrusion. The test specimens were fabricated by injection molding. The rate of biodegradation of the composites was studied using normal soil burial method. Field emission scanning electron microscopy (FESEM) was employed to study the surface morphology of the biodegraded composites. Compatibilization and fiber reinforcement accelerated the rate of biodegradation of the composites. This was confirmed by the surface morphology and residual weights of the biodegraded composites. The rate of biodegradation increased as fiber load increased from 10 wt. % to 25 wt. % in the composites.

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