

**BIODEGRADABLE BLENDS WITH FUNCTIONAL PROPERTIES CONTAINING BIOPOLYMERS***Szczepanik S.*, Prochon M.

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Petrochemical products pose an enormous problem for the environment we live in. Therefore, scientists have put an effort into creation of new ecologically friendly materials that are of bacterial, animal, or plant origin. Since then, several bioplastics have been examined and produced focusing on biodegradation. Biologically derived polylactide (PLA), polyhydroxybutyrate (PHB), and polyhydroxyalkanoates (PHA) possess interesting properties, unfortunately they are currently too expensive for most applications. Researchers have analyzed many promising biopolymers and one of them was gelatin. Its properties in film forming are plausible for use in plastic replacements, unfortunately gelatin alone cannot reach the strengths of petrochemical polymers alone. That is why gelatin products need modifications either chemical or physical additives or both to challenge plastics. We have presented a method of synthesizing a gelatin blend using industrial byproducts to further cheapen the cost of final product. Blends have shown good mechanical properties in both tensile strength and elongation and they proved to be biodegradable after decomposition under the action of microorganisms within 30 days.