Marine Degradable Plastic Based on Soybean By-Products

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This project demonstrates the manufacturing and performance testing of one type of biodegradable polymer (polybutylene adipate terephthalate (PBAT)), based on soybean curd residue (SCR), for usage in packaging applications. Developing and understanding the degradation behavior of these types of plastics will help to solve the issue of plastic waste recycling and dumping which has great interests worldwide. SCR/PBAT composites were fabricated with different amount of PBAT and soybean shells. They were mixed together using Brabender Plastograph EC batch mixer. The compounded composites lumps were compression molded to prepare sheets through applying pressure. . Samples for the characterization measurements were prepared using these sheets. Characterization Techniques were applied to test thermal and mechanical properties in addition to degradation rates.

Awards Won:

Qatar Foundation, Research &amp Development: Award of $1,000