

翁云宣

报告人简介：

翁云宣，教授，博士生导师，高分子化学与物理专业，理学博士。专业方向为生物基材料及降解塑料、塑料环境和卫生安全、塑料制品标准与质量。兼任中国塑协降解塑料专业委员会秘书长、全国生物基材料及降解制品标准化技术委员会秘书长、全国食品相关产品生产许可证审查员。



制定了多项食品直接接触包装材料产品如保鲜膜、塑料购物袋、连卷袋、一次性餐饮具等国家标准，制定了邮政业封装用胶带行业标准等。建立了以跟踪材料有机碳生命踪迹来评价其降解性能的多种测试方法，用于研究生物降解塑料生命过程的科学规律，推动建立了生物基材料及降解塑料行业标准体系及关键技术标准，推动了产业规模化生产与应用。与多家生产企业进行了生物降解一次性塑料膜袋、餐具等产品生产有关内容的技术合作。

发表 SCI、EI 等期刊论文 60 余篇，负责制定国家标准 20 余项，著作 2 部。完成国家自然科学基金面上项目 1 项、正主持 2 项，完成国家质检公益项目 1 项、科技部支撑计划子课题 2 项。获国家质检总局标准创新贡献奖 2 项，轻工业联合会科技创新奖 2 项。

YunXuan Weng

Profile of the Author:

Yun-xuan WENG is an professor at the School of Materials Science and Mechanical Engineering at Beijing Technology & Business University. His research is mainly focused on durability, degradation and sustainable development of polymeric materials. He acts as secretary-general of the Degradable Plastic Committee of CPPIA of China, and also as secretary-general of the Technology Committee of Standardization of Biobased and Degradable Materials.

He organized to formulate a number of national standards for food direct contact packaging materials, such as plastic wrap, plastic shopping bags, continuous roll bags, disposable tableware and other national standards. He promoted the establishment of

the standard of bio-based materials and biodegradable plastics industry standard system and promoted the production and application of industrial scale. The technical cooperation on the production of biodegradable plastic film bag and tableware and other products has been carried out with a number of production enterprises.

More than 60 periodicals, such as SCI and EI, are published, and 20 national standards and 2 books are made. The project includes the national natural fund project, the national quality inspection public welfare project and the support plan of the Ministry of science and technology. 2 awards were awarded for the standard innovation contribution of General Administration of Quality Supervision Inspection and Quarantine, and 2 of the scientific and technological innovation awards of China National Light Industry Council.

生物基材料现状及其降解行为研究

摘要：生物基材料由于其绿色、环境友好、资源节约等特点，正逐步成为引领当代世界科技创新和经济发展的又一个新的主导产业。尤其是生物降解塑料，随着一次性塑料废弃物大量使用而造成环境污染问题逐渐加重，更是成为当前研究的热点。本文介绍了生物基材料的总体发展情况，着重介绍了生物降解塑料的产业和应用现状，概括了目前已发布的有关测试方法与标准。另外，介绍了聚乳酸（PLA）、聚羟基烷酸酯（PHA）、聚对苯二甲酸己二酸-丁二酯（PBAT）等生物降解塑料加工改性以及生物降解行为研究的部分工作。

关键词：生物基材料；生物降解；聚乳酸；聚羟基烷酸酯；降解行为

The Status of Biobased Materials and Their Biodegradation Behavior

Abstract: Because of its green, environment-friendly and resource saving characteristics, biobased materials are becoming another leading industry to lead the world's technological innovation and economic development. Especially, biodegradable plastics has become a hot spot of current research while heavy using of

disposable plastic wastes causes environmental pollution problems to become more and more serious. We provide an overview of the status of biobased materials, biodegradable plastics and the testing standards. We also introduce some research working on biodegradation behaviors and modification of processing for biodegradable plastics such as poly(lactic acid) (PLA), poly-hydroxyalkanoates (PHA), poly(butylene adipate-co-terephthalate) (PBAT), and so on.