

## REFERENCES

- Abrusci, C., Pablos, J. L., Corrales, T., López-Marín, J., Marín, I., and Catalina, F. (2011). Biodegradation of photo-degraded mulching films based on polyethylenes and stearates of calcium and iron as pro-oxidant additives. *International Biodeterioration and Biodegradation*, 65(3), 451-459.
- Albertsson, A. C., and Karlsson, S. (1995). Degradable polymers for the future. *Acta Polymerica*, 46(2), 114-123.
- Ali, R. R., Rahman, R., Kasmani, R. M., Ibrahim, N., Mustapha, S. N. H., and Hasbullah, H. (2013). Tapioca starch biocomposite for disposable packaging ware. *Chemical Engineering Transactions*, 32, 1711-1716.
- Ammala, A., Bateman, S., Dean, K., Petinakis, E., Sangwan, P., Wong, S., and Leong, K. H. (2011). An overview of degradable and biodegradable polyolefins. *Progress in Polymer Science*, 36(8), 1015-1049.
- Angellier, H., Molina-Boisseau, S., Lebrun, L., and Dufresne, A. (2005). Processing and structural properties of waxy maize starch nanocrystals reinforced natural rubber. *Macromolecules*, 38(9), 3783-3792.
- Angles, M. N., and Dufresne, A. (2000). Plasticized starch/tunicin whiskers nanocomposites. 1. Structural analysis. *Macromolecules*, 33(22), 8344-8353.
- Araujo, J. R. D. (2009). *Compósitos de polietileno de alta densidade reforçados com fibra de curauá obtidos por extrusão e injeção* (Doctoral dissertation, Thesis-State University of Campinas-UNICAMP, Campinas).
- Arkatkar, A., Arutchelvi, J., Sudhakar, M., Bhaduri, S., Uppara, P. V., and Doble, M. (2009). Approaches to enhance the biodegradation of polyolefins. *The Open Environmental Engineering Journal*, 2(1).
- ASTM D638-03: Standard Test Methods for Tensile Properties of Plastic. New York, NY: Americal Society for Testing Materials.
- Attenburrow, G., Barnes, D. J., Davies, A. P., and Ingman, S. J. (1990). Rheological properties of wheat gluten. *Journal of Cereal Science*, 12(1), 1-14.
- Avella, M., Bonadies, E., Martuscelli, E., and Rimedio, R. (2001). European current standardization for plastic packaging recoverable through composting and biodegradation. *Polymer testing*, 20(5), 517-521.
- Avérus, L. and Halley, P. J. (2009). Biocomposites based on plasticized starch. *Biofuels, bioproducts and biorefining*, 3(3), 329-343.
- Bajpai, A. K., and Shrivastava, J. (2005). In vitro enzymatic degradation kinetics of polymeric blends of crosslinked starch and carboxymethyl cellulose. *Polymer international*, 54(11), 1524-1536.
- Baldwin, E., and Baker, R. (2002). Use of proteins in edible coatings for whole and minimally processed fruits and vegetables. *Book Chapter*, 501-515.

- Barczewski, M., Matykiewicz, D., and Hoffmann, B. (2017). Effect of Quinacridone Pigments on Properties and Morphology of Injection Molded Isotactic Polypropylene. *International Journal of Polymer Science*, 2017.
- Bardi, M. A. G. and Machado, L. D. B. (2012). *RadTech Int. UV EB Technol. Expo Conf. 2012 (RadTech 2012)*. 75-85
- Barnes, D. K., Galgani, F., Thompson, R. C., and Barlaz, M. (2009). Accumulation and fragmentation of plastic debris in global environments. *Philosophical Transactions of the Royal Society of London B: Biological Sciences*, 364(1526), 1985-1998.
- Barnes, D. K., Galgani, F., Thompson, R. C., and Barlaz, M. (2009). Accumulation and fragmentation of plastic debris in global environments. *Philosophical Transactions of the Royal Society of London B: Biological Sciences*, 364(1526), 1985-1998.
- Bastioli, C., Cerutti, A., Guanella, I., Romano, G. C., and Tosin, M. (1995). Physical state and biodegradation behavior of starch-polycaprolactone systems. *Journal of Polymers and the Environment*, 3(2), 81-95.
- Beg, M. D. H., and Pickering, K. L. (2008). Reprocessing of wood fibre reinforced polypropylene composites. Part II: Hygrothermal ageing and its effects. *Composites Part A: Applied science and manufacturing*, 39(9), 1565-1571.
- Bergeret, A. and Ferry, L. (2009). Influence of the fibre/matrix interface on ageing mechanisms of glass fibre reinforced thermoplastic composites (PA-6, Pet, PBT) in a hygrothermal environment, *Polymer Degradation and Stability*. 94 (9): 1315-1324.
- Biswas, A., Shogren, R. L., Stevenson, D. G., Willett, J. L., and Bhowmik, P. K. (2006). Ionic liquids as solvents for biopolymers: Acylation of starch and zein protein. *Carbohydrate polymers*, 66(4), 546-550.
- Boontima, B., Noomhorm, A., Puttanlek, C., Uttapap, D. and Rungsardthong, V. (2015). Mechanical properties of sugarcane bagasse fiber-reinforced soy based biocomposites. *Journal of Polymers and the Environment*, 23(1), 97-106.
- Briassoulis, D. (2004). An overview on the mechanical behaviour of degradable agricultural films. *Journal of Polymers and the Environment*, 12(2), 65-81.
- Cao, N., Yang, X., and Fu, Y. (2009). Effects of various plasticizers on mechanical and water vapor barrier properties of gelatin films. *Food hydrocolloids*, 23(3), 729-735.
- Chandra, R. and Rustgi, R. (1998). Biodegradable polymers. *Progress in polymer science*, 23(7), 1273-1335.

Chandra, R. U. S. T. G. I., and Rustgi, R. (1998). Degradable polymers. *Progress in polymer science*, 23(7), 1273-1335.

Cho, J. W., Woo, K. S., Chun, B. C., and Park, J. S. (2001). Ultraviolet reflective and mechanical properties of polyethylene mulching films. *European polymer journal*, 37(6), 1227- 1232.

Choudhary, P., Mohanty, S., Nayak, S. K., and Unnikrishnan, L. (2011). Poly (L-lactide)/polypropylene blends: Evaluation of mechanical, thermal, and morphological characteristics. *Journal of Applied Polymer Science*, 121(6), 3223-3237.

Danjaji, I. D., Nawang, R., Ishiaku, U. S., Ismail, H., and Ishak, Z. M. (2002). Degradation studies and moisture uptake of sago-starch-filled linear low-density polyethylene composites. *Polymer Testing*, 21(1), 75-81.

DeLeo, C. L. (2010). *Reactively compatibilized starch-based renewable polymer blends* (Doctoral dissertation, University of Pittsburgh).

Demir, H. and Atikler, U. (2006). The effect of fiber surface treatments on the tensile and water sorption properties of polypropylene-luffa fiber composites. *Composite Part A: Applied Science and Manufacturing*, 37(3): 447-456.

Doty, L. F. (2005). A Brief Overview of Degradable Plastics.

Dubief, D., Samain, E., and Dufresne, A. (1999). Polysaccharide microcrystals reinforced amorphous poly( $\beta$ -hydroxy octanoate) nano composite materials. *Macromolecules*, 32(18), 5765-5771.

Dudowicz, J., Douglas, J. F., and Freed, K. F. (2014). Two glass transitions in miscible polymer blends. *The Journal of chemical physics*, 140(24), 244905.

Elvira, C., Yi, F., Azevedo, M. C., Rebouta, L., Cunha, A. M., San Román, J., and Reis, R. L. (2003). Plasma-and chemical-induced graft polymerization on the surface of starch-based biomaterials aimed at improving cell adhesion and proliferation. *Journal of Materials Science: Materials in Medicine*, 14(2), 187-194.

Fabiysi, J. S., McDonald, A. G., Wolcott, M. P., and Griffiths, P. R. (2008). Wood plastic composites weathering: Visual appearance and chemical changes. *Polymer Degradation and Stability*, 93(8), 1405-1414.

Fechine, G. J. M., Rosa, D. S., Rezende, M. E. and Demarquette, N. R. (2009). Effect of UV radiation and pro-oxidant on PP biodegradability. *Polymer Engineering and Science*, 49(1), 123-128.

Fedor, G. R., and Brennan, P. J. (1996). Comparison between natural weathering and fluorescent UV exposures: UVA-340 lamp test results. In *Durability Testing of Nonmetallic Materials*. ASTM International.

Feldmann, M., and Bledzki, A. K. (2014). Bio-based polyamides reinforced with cellulosic fibres—processing and properties. *Composites Science and Technology*, 100, 113-120.

Gao, C., Stading, M., Wellner, N., Parker, M. L., Noel, T. R., Mills, E. C., and Belton, P. S. (2006). Plasticization of a protein-based film by glycerol: a spectroscopic, mechanical, and thermal study. *Journal of agricultural and food chemistry*, 54(13), 4611-4616.

Garcia, M., Van Vliet, G., Jain, S., Schrauwen, B., Sarkissov, A., Van Zyl, W. E., and Boukamp, B. (2004). Polypropylene/SiO<sub>2</sub> nanocomposites with improved mechanical properties. *Reviews on advanced materials science*, 6(2), 169-175.

Gellert, E. P. and Turley, D. M. (1999). Seawater immersion ageing of glass-fibre reinforced polymer laminates for marine applications. *Composites Part A: Applied Science and Manufacturing*, 30 (11): 1259-1265.

Gelse, K., Pöschl, E., and Aigner, T. (2003). Collagens—structure, function, and biosynthesis. *Advanced drug delivery reviews*, 55(12), 1531-1546.

George, E. R., Sullivan, T. M. and Park, E. H. (1994). Thermoplastic starch blends with a poly (ethylene-co-vinyl alcohol): Processability and physical properties. *Polymer Engineering and Science*, 34(1), 17-23.

Gontard, N., Guilbert, S., and CUQ, J. L. (1993). Water and glycerol as plasticizers affect mechanical and water vapor barrier properties of an edible wheat gluten film. *Journal of Food Science*, 58(1), 206-211.

Gregory, M. R. (2009). Environmental implications of plastic debris in marine settings—entanglement, ingestion, smothering, hangers-on, hitch-hiking and alien invasions. *Philosophical Transactions of the Royal Society of London B: Biological Sciences*, 364(1526), 2013-2025.

Guillet, J. (1995). Plastics and the environment. *Degradable Polymers: Principles and Applications*, G. Scott and D. Gilead (eds.), London, Chapman and Hall, 216-246.

Gulmine, J. V., Janissek, P. R., Heise, H. M., and Akcelrud, L. (2003). Degradation profile of polyethylene after artificial accelerated weathering. *Polymer degradation and stability*, 79(3), 385-397.

Gunatillake, P., Mayadunne, R., and Adhikari, R. (2006). Recent developments in degradable synthetic polymers. *Biotechnology annual review*, 12, 301-347.

Hadad, D., Geresh, S., and Sivan, A. (2005). Biodegradation of polyethylene by the thermophilic bacterium *Brevibacillus borstelensis*. *Journal of applied microbiology*, 98(5), 1093– 1100.

Hamdan, S., Hashim, D. M. A., Ahmad, M., and Embong, S. (2000). Compatibility studies of polypropylene (PP)-sago starch (SS) blends using DMTA. *Journal of polymer research*, 7(4), 237-244.

Hannequart, J. P. (2004). Good practice guide on waste plastics recycling: a guide by and for local and regional authorities. *Association of cities and regions for recycling (ACRR), Belgium*.

Held, P. (2012). Enzymatic Digestion of Polysaccharides, Part II: Optimization of Polymer Digestion and Glucose Production in Microplates. *Biofuel Research*.

Hinsken, H., Moss, S., Pauquet, J. R., and Zweifel, H. (1991). Degradation of polyolefins during melt processing. *Polymer degradation and stability*, 34(1-3), 279-293.

Ibim, S. E., Uhrich, K. E., Attawia, M., Shastri, V. R., El-Amin, S. F., Bronson, R., and Laurencin, C. T. (1998). Preliminary in vivo report on the osteocompatibility of poly (anhydride-co-imides) evaluated in a tibial model. *Journal of Biomedical Materials Research Part A*, 43(4), 374-379.

Iherika, C. L (2011). Experimental study of the effect of starch on the mechanical properties and biodegradation of polypropylene, FUTO, Imo state, Nigeria.

Imam, S. H., Gordon, S. H., Shogren, R. L., and Greene, R. V. (1995). Biodegradation of starch- poly ( $\beta$ -hydroxybutyrate-co-valerate) composites in municipal activated sludge. *Journal of polymers and the environment*, 3(4), 205-213.

Ishiaku, U. S., Pang, K. W., Lee, W. S., and Ishak, Z. M. (2002). Mechanical properties and enzymic degradation of thermoplastic and granular sago starch filled poly ( $\epsilon$ -caprolactone). *European polymer journal*, 38(2), 393-401.

Islam, M. R., Beg, M. D. H., and Gupta, A. (2014). Characterization of alkali-treated Kenaf fibre-reinforced recycled polypropylene composites. *Journal of Thermoplastic Composite Materials*, 27(7), 909-932.

Islam, M. R., Gupta, A., Rivai, M., Beg, M. D. H., and Mina, M. (2016). Effects of fiber-surface treatment on the properties of hybrid composites prepared from oil palm empty fruit bunch fibers, glass fibers, and recycled polypropylene. *Journal of Applied Polymer Science*, 133(11).

Islam, N. M., Othman, N., Ahmad, Z., and Ismail, H. (2010). Effect of pro-degradant additives concentration on aging properties of polypropylene films. *Polymer-Plastics Technology and Engineering*, 49(3), 272-278.

- Islam, N. Z. M., Othman, N., Ahmad, Z., and Ismail, Z. (2011). Effect of pro-degradant additive on photo-oxidative aging of polypropylene film. *Sains Malaysiana*, 40(7), 803-808.
- Ismail, H., Nordin, R., Ahmad, Z. and Rashid, A. (2010). Processibility and miscibility of linear low-density polyethylene/poly (vinyl alcohol) blends: In situ compatibilization with maleic acid. *Iran. Polym. J.*, 19(4), 297-308.
- Jakubowicz, I. (2003). Evaluation of degradability of degradable polyethylene (PE). *Polymer Degradation and Stability*, 80(1), 39-43.
- Jang, M. K., Kong, B. G., Jeong, Y. I., Lee, C. H., and Nah, J. W. (2004). Physicochemical characterization of  $\alpha$ -chitin,  $\beta$ -chitin, and  $\gamma$ -chitin separated from natural resources. *Journal of Polymer Science Part A: Polymer Chemistry*, 42(14), 3423-3432.
- Jasberg, B., Swanson, C., Nelsen, T., and Doane, W. (1992). Mixing polyethylene-poly (ethylene-co-acrylic acid) copolymer-starch formulations for blown films. *ARS reprints collection*.
- Kalogeras, I. M. (2016). Glass-transition Phenomena in Polymer Blends. *Encyclopedia of Polymer Blends*, 1-134.
- Kalpakjian, S. (1995). Manufacturing Engineering and Technology Addison-Wesley. *Reading MA*.
- Karina, M., Onggo, H., Abdullah, A. H. D. and Syampuwardi, A. (2008). Effect of oil palm empty fruit brunch fibre on the physical and mechanical properties of fibre glass reinforced polyester resin. *Journal of Biological Sciences*. 8: 100-106.
- Katsoulotos, G., Pappa, G., Tarantili, P. A., and Magoulas, K. (2008). Preparation and characterization of functionalized low density polyethylene matrix biocomposites. *Polymer Engineering and Science*, 48(5), 902-911.
- Kawasaki, *Carbohydrate Polymers*, 2010, 36, 81 – 266.
- Kester, J. J., and Fennema, O. R. (1986). Edible films and coatings: a review. *Food technology (USA)*.
- Khabbaz, F., Albertsson, A. C., and Karlsson, S. (1999). Chemical and morphological changes of environmentally degradable polyethylene films exposed to thermo-oxidation. *Polymer Degradation and Stability*, 63(1), 127-138.
- Khalil, H. P. S.A, Siti Alwani, M., Ridzuan, R., Kamarudin, H., and Khairul, A. (2008). Chemical composition, morphological characteristics, and cell wall structure of

Malaysian oil palm fibers. *Polymer-Plastics Technology and Engineering*, 47(3), 273-280.

Khiari, Z., Ndagijimana, M., and Betti, M. (2014). Low molecular weight bioactive peptides derived from the enzymatic hydrolysis of collagen after isoelectric solubilization/precipitation process of turkey by-products. *Poultry science*, 93(9), 2347-2362.

Kim, H. S., Yang, H. S., and Kim, H. J. (2005). Biodegradability and mechanical properties of agro-flour-filled polybutylene succinate biocomposites. *Journal of Applied Polymer Science*, 97(4), 1513-1521.

Kitching, S. and Donald, A. M. (1998). Beam damage of polypropylene in the environmental scanning electron microscope: an FTIR study. *Journal of Microscopy*, 190(3), 357-365.

Koenig, M. F., and Huang, S. J. (1995). Degradable blends and composites of polycaprolactone and starch derivatives. *Polymer*, 36(9), 1877-1882.

Kondratowicz, F. Ł., and Ukielski, R. (2009). Synthesis and hydrolytic degradation of poly (ethylene succinate) and poly (ethylene terephthalate) copolymers. *Polymer Degradation and Stability*, 94(3), 375-382.

Konduri, M. K., Koteswarareddy, G., Rohini Kumar, D. B., Venkata Reddy, B., and Lakshmi Narasu, M. (2011). Effect of pro-oxidants on biodegradation of polyethylene (LDPE) by indigenous fungal isolate, *Aspergillus oryzae*. *Journal of Applied Polymer Science*, 120(6), 3536-3545.

Koroleva, A., Huebner, M., Lukanina, Y., Khvatov, A., Popov, A., and Monakhova, T. (2012). Oxo-biodegradability of polyethylene blends with starch, cellulose and synthetic additives.

Koutny, M., Sancelme, M., Dabin, C., Pichon, N., Delort, A. M., and Lemaire, J. (2006). Acquired biodegradability of polyethylenes containing pro-oxidant additives. *Polymer degradation and stability*, 91(7), 1495-1503.

Kumar, K. A., and Soundararajan, S. (2016). Studies on the Mechanical Properties and UV-Accelerated Weathering of LDPE with Benzophenone and Carboxy Methylated Starch. *Polymers from Renewable Resources*, 7(4), 155.

Kumar, N. (2002). Polyanhydrides: An Overview, 54 ADV. *Drug Del. Rev*, 889.

Langer, R. (1995). Biomaterials and biomedical engineering. *Chemical Engineering Science*, 50(24), 4109-4121.

Lawton, J. W. (1996). Effect of starch type on the properties of starch containing films. *Carbohydrate Polymers*, 29(3), 203-208.

Lee, C. K., Cho, M. S., Kim, I. H., Lee, Y. and Nam, J. D. (2010). Preparation and physical properties of the biocomposite, cellulose diacetate/kenaf fibre sized with poly(vinyl alcohol). *Macromolecular Research*, 18(6): 566-570.

Lee, H. S., Cho, D. and Han, S. O. (2008). Effect of natural fiber surface treatments on the interfacial and mechanical properties of henequen/polypropylene biocomposites. *Macromolecular Research*, 16(5), 411-417.

Lim, S. T., Jane, J. L., Rajagopalan, S., and Seib, P. A. (1992). Effect of Starch Granule Size on Physical Properties of Starch-Filled Polyethylene Film. *Biotechnology progress*, 8(1), 51-57.

Lin, Q., Zhou, X., and Dai, G. (2002). Effect of hydrothermal environment on moisture absorption and mechanical properties of wood flour-filled polypropylene composites. *Journal of Applied Polymer Science*, 85(14), 2824-2832.

Löfgren, A., Albertsson, A. C., Dubois, P., and Jérôme, R. (1995). Recent advances in ring-opening polymerization of lactones and related compounds. *Journal of Macromolecular Science, Part C: Polymer Reviews*, 35(3), 379-418.

Longo, C., Savaris, M., Zeni, M., Brandalise, R. N., and Grisa, A. M. C. (2011). Degradation study of polypropylene (PP) and bioriented polypropylene (BOPP) in the environment. *Materials Research*, 14(4), 442-448.

Lv, S., Gu, J., Cao, J., Tan, H., and Zhang, Y. (2015). Effect of annealing on the thermal properties of poly (lactic acid)/starch blends. *International journal of biological macromolecules*, 74, 297-303.

Ma, X., Yu, J., and Kennedy, J. F. (2005). Studies on the properties of natural fibers-reinforced thermoplastic starch composites. *Carbohydrate Polymers*, 62(1), 19-24.

Maharana, T., Mohanty, B., and Negi, Y. S. (2009). Melt-solid polycondensation of lactic acid and its biodegradability. *Progress in polymer science*, 34(1), 99-124.

Majid, R. A., Ismail, H., and Taib, R. M. (2010). The effects of natural weathering on the properties of linear density polyethylene (LDPE)/thermoplastic sago starch (TPSS) blends. *Polymer-Plastics Technology and Engineering*, 49(11), 1142-1149.

Malaysian Polymer Journal (MPJ). (2007)., 2: 31-57.

Mali, S., Sakanaka, L. S., Yamashita, F. and Grossmann, M. V. E. (2005). Water sorption and mechanical properties of cassava starch films and their relation to plasticizing effect. *Carbohydrate Polymers*, 60(3), 283-289.

Mani, R., and Bhattacharya, M. (1998). Properties of injection moulded starch/synthetic polymer blends—III. Effect of amylopectin to amylose ratio in starch. *European polymer journal*, 34(10), 1467-1475.

Marcovich, N. E., and Villar, M. A. (2003). Thermal and mechanical characterization of linear low-density polyethylene/wood flour composites. *Journal of Applied Polymer Science*, 90(10), 2775-2784.

Marousis, S. N., and Saravacos, G. D. (1990). Density and porosity in drying starch materials. *Journal of Food Science*, 55(5), 1367-1372.

Martin, O., Schwach, E., and Couturier, Y. (2001). Properties of degradable multilayer films based on plasticized wheat starch. *Starch-Stärke*, 53(8), 372-380.

Martins, A. B., and Santana, R. M. C. (2016). Effect of carboxylic acids as compatibilizer agent on mechanical properties of thermoplastic starch and polypropylene blends. *Carbohydrate polymers*, 135, 79-85.

Migneault, S., Koubaa, A., Erchiqui, F., Chaala, A., Englund, K. and Wolcott, M. P. (2009). Effects of processing method and fiber size on the structure and properties of wood-plastic composites, *Composites Part A: Applied Science and Manufacturing*. 40: 80-85.

Mina, J., Valadez-Gonzalez, A., Herrera-Franco, P., Zuluaga, F., and Delvasto, S. (2011). Physicochemical characterization of natural and acetylated thermoplastic cassava starch. *Dyna*, 78(166), 174-182.

Mohanty, A. K., Misra, M., and Hinrichsen, G. (2000). Biofibers, biodegradable polymers and biocomposites: an overview. *Macromolecular materials and Engineering*, 276(1), 1-24.

Mooney, B. P. (2009). The second green revolution? Production of plant-based degradable plastics. *Biochemical Journal*, 418(2), 219-232.

Morent, R., De Geyter, N., Leys, C., Gengembre, L. and Payen, E. (2008). Comparison between XPS-and FTIR-analysis of plasma-treated polypropylene film surfaces. *Surface and Interface Analysis*, 40(3-4), 597-600.

Mortazavi, S., Ghasemi, I., and Oromiehie, A. (2013). Effect of phase inversion on the physical and mechanical properties of low density polyethylene/thermoplastic starch. *Polymer Testing*, 32(3), 482-491.

Mortazavi, S., Ghasemi, I., and Oromiehie, A. (2013). Effect of phase inversion on the physical and mechanical properties of low density polyethylene/thermoplastic starch. *Polymer Testing*, 32(3), 482-491.

Müller, P., Bere, J., Fekete, E., Móczó, J., Nagy, B., Kállay, M., and Pukánszky, B. (2016). Interactions, structure and properties in PLA/plasticized starch blends. *Polymer*, 103, 9-18.

Na, B., Zou, S., Lv, R., Luo, M., Pan, H., and Yin, Q. (2011). Unusual cold crystallization behavior in physically aged poly (L-lactide). *The Journal of Physical Chemistry B*, 115(37), 10844-10848.

Nair, L. S., and Laurencin, C. T. (2007). Degradable polymers as biomaterials. *Progress in polymer science*, 32(8), 762-798.

Navarro, R., Torre, L., Kenny, J. M., and Jiménez, A. (2003). Thermal degradation of recycled polypropylene toughened with elastomers. *Polymer Degradation and Stability*, 82(2), 279-290.

Nawang, R., Danjaji, I. D., Ishiaku, U. S., Ismail, H. and Ishak, Z. M. (2001). Mechanical properties of sago starch-filled linear low density polyethylene (LLDPE) composites. *Polymer Testing*, 20(2), 167-172.

Nguyen, T. A., Gregersen, Ø. W., and Männle, F. (2015). Thermal oxidation of polyolefins by mild pro-oxidant additives based on iron carboxylates and lipophilic amines: Degradability in the absence of light and effect on the adhesion to paperboard. *Polymers*, 7(8), 1522-1540.

Nguyen, T. A., Männle, F., and Gregersen, Ø. W. (2012). Polyethylene/octa-(ethyl octadeca-10, 13 dienoamide) silsesquioxane blends and the adhesion strength to paperboard. *International Journal of Adhesion and Adhesives*, 38, 117-124.

Nikazar, M., Safari, B., Bonakdarpour, B., and Milani, Z. (2005). Improving the biodegradability and mechanical strength of corn starch-LDPE blends through formulation modification. *Iranian Polymer Journal*, 14(12), 1050.

Norulizani, M. A., Paridah, M. T., Anwar, U. M. K., MohdNor, M. Y. and H'ng, P. S. (2013). Effects of fiber treatment on morphology, tensile and thermogravimetric analysis of oil palm empty fruit bunches fibers, *Composites: Part B*. 45: 1251-1257.

Obasi, H. C. and Igwe, I. O. (2014). Cassava starch mixed polypropylene degradable polymer: Preparation Characterization and effects of biodegradation products on growth of plants. *International Journal of Science Research Engineering*, 3: 802-807.

Obasi, H. C., Igwe, I. O., Ogbobe, O., Aharanwa, B. C., Egeolu, F. C. (2015). Processing and characterization of thermoplastic starch/ polypropylene blends. *International Journal of Scientific Research in Science, Engineering and Technology*, 1: 7-13.

- Obasi, H. C., Onuoha, F. N., Eze, I. O., Nwanonenyi, S. C., Arukalam, I. O., and Uzoma, P. C. (2013). Effect of soil burial on properties of polypropylene (PP)/plasticized potato starch (PPS) Blends. *The International Journal Of Engineering And Science (IJES)*, 2(8), 14-18.
- Oduola, M. K., and Akpeji, P. O. (2015). Effect of Starch on the Mechanical and Rheological Properties of Polypropylene. *American Journal of Chemical Engineering*, 3(2-1), 1-8.
- Okada, M. (2002). Chemical syntheses of biodegradable polymers. *Progress in polymer science*, 27(1), 87-133.
- Okada, M. (2002). Chemical syntheses of degradable polymers. *Progress in polymer science*, 27(1), 87-133.
- Oliveira, T. A., Oliveira, R. R., Barbosa, R., Azevedo, J. B., and Alves, T. S. (2017). Effect of reprocessing cycles on the degradation of PP/PBAT-thermoplastic starch blends. *Carbohydrate Polymers*, 168, 52-60.
- Oragwu, I. P., and Igwe, I. O. (2013). Studies on the Mechanical and Water uptake Properties of Some Polyolefins/Corn Starch Blends (1). *American Journal of Engineering Research*, 2(7), 22-27.
- Osawa, Z., Kurisu, N., Nagashima, K., and Nakano, K. (1979). The effect of transition metal stearates on the photodegradation of polyethylene. *Journal of Applied polymer science*, 23(12), 3583-3590.
- Otey, F. H. and Westhoff, R. P. (1982). *U.S. Patent No. 4,337,181*. Washington, DC: U.S. Patent and Trademark Office.
- Ouhib, R., Renault, B., Mouaziz, H., Nouvel, C., Dellacherie, E., and Six, J. L. (2009). Degradable amylose-g-PLA glycopolymers from renewable resources. *Carbohydrate Polymers*, 77(1), 32-40.
- Pablos, J. L., Abrusci, C., Marín, I., López-Marín, J., Catalina, F., Espí, E., and Corrales, T. (2010). Photodegradation of polyethylenes: comparative effect of Fe and Ca-stearates as pro-oxidant additives. *Polymer degradation and stability*, 95(10), 2057-2064.
- Parandoosh, S., and Hudson, S. M. (1993). The acetylation and enzymatic degradation of starch films. *Journal of applied polymer science*, 48(5), 787-791.
- Park, J. W., Im, S. S., Kim, S. H., and Kim, Y. H. (2000). Degradable polymer blends of poly (L-lactic acid) and gelatinized starch. *Polymer Engineering and Science*, 40(12), 2539-2550.

- Peres, A. M., Pires, R. R., and Oréfice, R. L. (2016). Evaluation of the effect of reprocessing on the structure and properties of low density polyethylene/thermoplastic starch blends. *Carbohydrate polymers*, 136, 210-215.
- Pochiraju, K. V., Tandon, G. P., and Pagano, N. J. (2001). Analyses of single fiber pushout considering interfacial friction and adhesion. *Journal of the Mechanics and Physics of Solids*, 49(10), 2307-2338.
- Preechawong, D., Peesan, M., Supaphol, P., and Rujiravanit, R. (2004). Characterization of starch/poly ( $\epsilon$ -caprolactone) hybrid foams. *Polymer testing*, 23(6), 651-657.
- Pritchard, G and Davis, J. (1998). Plastics Additives: An AZ Reference. *Flame retardants: halogen-free systems (including phosphorus additives)*, 277-286.
- Qin, L., Qiu, J., Liu, M., Ding, S., Shao, L., Lü, S., and Fu, X. (2011). Mechanical and thermal properties of poly (lactic acid) composites with rice straw fiber modified by poly (butyl acrylate). *Chemical Engineering Journal*, 166(2), 772-778.
- Rabek, J. F. (2012). *Polymer photodegradation: mechanisms and experimental methods*. Springer Science and Business Media.
- Rahman, M. R., Islam, M. N. and Huque, M. M. (2010). Influence of fiber treatment on the mechanical and morphological properties of sawdust reinforced polypropylene composites. *Journal of Polymers and the Environment*, 18(3), 443-450.
- Ratnayake, W. S., Hoover, R., Shahidi, F., Perera, C., and Jane, J. (2001). Composition, molecular structure, and physicochemical properties of starches from four field pea (*Pisum sativum* L.) cultivars. *Food Chemistry*, 74(2), 189-202.
- Reddy, N., Jiang, Q., Jin, E., Shi, Z., Hou, X., and Yang, Y. (2013). Bio-thermoplastics from grafted chicken feathers for potential biomedical applications. *Colloids and Surfaces B: Biointerfaces*, 110, 51-58.
- Rodriguez-Llamazares, S. A. D. D. Y. S. (2013). Polypropylene/starch blends: Study of thermal and morphological properties. *Journal of the Chilean Chemical Society*, 58(1), 1643-1646.
- Rosa, D. S., Guedes, C. G. F. and Carvalho, C. L. (2007). Processing and thermal, mechanical and morphological characterization of post-consumer polyolefins/thermoplastic starch blends. *Journal of materials science*, 42(2), 551-557.
- Rowe, R. K., and Sangam, H. P. (2002). Durability of HDPE geomembranes. *Geotextiles and Geomembranes*, 20(2), 77-95.

- Roy, P. K., Singh, P., Kumar, D., and Rajagopal, C. (2010). Manganese stearate initiated photo-oxidative and thermo-oxidative degradation of LDPE, LLDPE and their blends. *Journal of applied polymer science*, 117(1), 524-533.
- Roy, P. K., Surekha, P., Rajagopal, C., and Choudhary, V. (2006). Effect of cobalt carboxylates on the photo-oxidative degradation of low-density polyethylene. Part-I. *Polymer Degradation and Stability*, 91(9), 1980-1988.
- Roy, P. K., Surekha, P., Rajagopal, C., and Choudhary, V. (2007). Comparative effects of cobalt carboxylates on the thermo-oxidative degradation of LDPE films. *Journal of applied polymer science*, 103(6), 3758-3765.
- Roy, P. K., Surekha, P., Rajagopal, C., and Choudhary, V. (2007). Thermal degradation studies of LDPE containing cobalt stearate as pro-oxidant. *Express Polym. Lett*, 1(4), 208-216.
- Roy, P. K., Surekha, P., Rajagopal, C., Chatterjee, S. N., and Choudhary, V. (2007). Studies on the photo-oxidative degradation of LDPE films in the presence of oxidised polyethylene. *Polymer degradation and stability*, 92(6), 1151-1160.
- Roy, P. K., Surekha, P., Rajagopal, C., Chatterjee, S. N., and Choudhary, V. (2005). Effect of benzil and cobalt stearate on the aging of low-density polyethylene films. *Polymer Degradation and Stability*, 90(3), 577-585.
- Roy, P. K., Surekha, P., Rajagopal, C., Chatterjee, S. N., and Choudhary, V. (2006). Accelerated aging of LDPE films containing cobalt complexes as prooxidants. *Polymer Degradation and Stability*, 91(8), 1791-1799.
- Roy, P. K., Surekha, P., Rajagopal, C., Raman, R., and Choudhary, V. (2006). Study on the degradation of low-density polyethylene in the presence of cobalt stearate and benzil. *Journal of Applied polymer science*, 99(1), 236-243.
- Roy, P. K., Surekha, P., Raman, R., and Rajagopal, C. (2009). Investigating the role of metal oxidation state on the degradation behaviour of LDPE. *Polymer degradation and stability*, 94(7), 1033-1039.
- Sailaja, R. R. N. (2005). Mechanical properties of esterified tapioca starch-LDPE blends using LDPE-co-glycidyl methacrylate as compatibilizer. *Polymer international*, 54(2), 286-296.
- Salaberria, A. M., Fernandes, S. C., Diaz, R. H., and Labidi, J. (2015). Processing of  $\alpha$ -chitin nanofibers by dynamic high pressure homogenization: characterization and antifungal activity against *A. niger*. *Carbohydrate polymers*, 116, 286-291.

- Salaberria, A. M., Labidi, J., and Fernandes, S. C. (2014). Chitin nanocrystals and nanofibers as nano-sized fillers into thermoplastic starch-based biocomposites processed by melt-mixing. *Chemical Engineering Journal*, 256, 356-364.
- Sanadi, A. R., Hunt, J. F., Caulfield, D. F., Kovacsvolgyi, G., and Destree, B. (2001, May). High fiber-low matrix composites: kenaf fiber/polypropylene. In *Proceedings of 6th International Conference on Woodfiber-Plastic Composites* (pp. 15-16).
- Scott, G. (1999). *Polymers and the Environment*. Royal Society of Chemistry.
- Scott, G. (2005). In *Degradable Polymers for Industrial Applications*; Smith, R., Eds.; Cambridge: Woodhead, Chapter 17, 451-473.
- Shah, P. B., Bandopadhyay, S. and Bellare, J. R. (1995). Environmentally degradable starch filled low density polyethylene. *Polymer Degradation and Stability*, 47(2), 165-173.
- Shaik, A. A., Richter, M., Kricheldorf, H. R., and Krüger, R. P. (2001). New polymer syntheses. CIX. Biodegradable, alternating copolymers of terephthalic acid, aliphatic dicarboxylic acids, and alkane diols. *Journal of Polymer Science Part A: Polymer Chemistry*, 39(19), 3371-3382.
- Sharma, N., Khatri, B., Kaushik, R., Sharma, P., and Sharma, R. (2017). Isolation and development of wheat based gluten edible film and its physicochemical properties. *International Food Research Journal*, 24(1), 94-101.
- Sharma, S., and Gupta, A. (2016). Sustainable management of keratin waste biomass: applications and future perspectives. *Brazilian Archives of Biology and Technology*, 59.
- Sharma, S., Arun, G., Saufi, S. M., Chik, T., Chua, G. K., Pradeep Kumar, P., Jayshree, T., Malini, S. In Proceedings of the National Conference for Postgraduate Research (NCON-PGR 2016), Universiti Malaysia Pahang (UMP), Pekan. 2016 693-699.
- Sharma, S., Gupta, A., Chik, S. M. S. B. T., Kee, C. Y. G. and Poddar, P. K. (2017). In IOP Conference Series: Materials Science and Engineering, 012-013.
- Sharma, S., Gupta, A., Chik, S. M. S., Kee, C. G., Mistry, B. M., Kim, D. H., and Sharma, G. (2017). Characterization of keratin microparticles from feather biomass with potent antioxidant and anticancer activities. *International Journal of Biological Macromolecules*, 104, 189-196.
- Shi, P., Schach, R., Munch, E., Montes, H., and Lequeux, F. (2013). Glass transition distribution in miscible polymer blends: from calorimetry to rheology. *Macromolecules*, 46(9), 3611-3620.

Shin, B. Y., Lee, S. I., Shin, Y. S., Balakrishnan, S., and Narayan, R. (2004). Rheological, mechanical and biodegradation studies on blends of thermoplastic starch and polycaprolactone. *Polymer Engineering and Science*, 44(8), 1429-1438.

Shinoj, S., Visvanathan, R., Panigrahi, S., and Kochubabu, M. (2011). Oil palm fiber (OPF) and its composites: A review. *Industrial Crops and Products*, 33(1), 7-22.

Shirai, M. A., Grossmann, M. V. E., Mali, S., Yamashita, F., Garcia, P. S., and Müller, C. M. O. (2013). Development of biodegradable flexible films of starch and poly (lactic acid) plasticized with adipate or citrate esters. *Carbohydrate polymers*, 92(1), 19-22.

Shogren, R. L. (1993). Effects of moisture and various plasticizers on the mechanical properties of extruded starch. *Degradable polymers and packaging*, 141-150.

Shurtleff, W., and Aoyagi, A. (1989). Soy Protein Isolates, Concentrates, and Textured Soy Protein Products.

Silverstein, R. M., Bassler, G. C., and Morrill, T. C. (1991). Spectrometric identification of organic molecules.

Sipinen, A. J., and Rutherford, D. R. (1993). A study of the oxidative degradation of polyolefins. *Journal of Polymers and the Environment*, 1(3), 193-202.

Sobral, P. D. A., Menegalli, F. C., Hubinger, M. D., and Roques, M. A. (2001). Mechanical, water vapor barrier and thermal properties of gelatin based edible films. *Food hydrocolloids*, 15(4), 423-432.

Song, Y., and Zheng, Q. (2008). Improved tensile strength of glycerol-plasticized gluten bioplastic containing hydrophobic liquids. *Bioresource technology*, 99(16), 7665-7671.

Soni, R. K., Soam, S., and Dutt, K. (2009). Studies on biodegradability of copolymers of lactic acid, terephthalic acid and ethylene glycol. *Polymer Degradation and Stability*, 94(3), 432-437.

Soundararajan, S and Palanivelu, K. (2014). Studies on mechanical, thermal, electrical properties and accelerated UV weathering of PP with HIPS blends. *Journal of Polymer and Textile Engineering*, 1(3), 5-8.

Sperling, L. H. and Carrher, C.E. (1988). Gelatin. *Encyclopedia of Polymer Science and Engineering*, 12: 672.

Sreekala, M. S. and Thomas, S. (2003). Effect of fibre surface modification on water-sorption characteristics of oil palm fibres. *Composites Science and Technology*, 63(6): 861-869.

Standard, A. (1998). In Annual Book of ASTM Standards 8, 32-35.

St-Pierre, N., Favis, B. D., Ramsay, B. A., Ramsay, J. A. and Verhoogt, H. (1997). Processing and characterization of thermoplastic starch/polyethylene blends. *Polymer*, 38(3), 647-655.

Subramaniam, M., Sharma, S., Gupta, A., and Abdullah, N. (2018). Enhanced degradation properties of polypropylene integrated with iron and cobalt stearates and its synthetic application. *Journal of Applied Polymer Science*, 135(12).

Sudesh, K., and Iwata, T. (2008). Sustainability of biobased and degradable plastics. *CLEAN–Soil, Air, Water*, 36(5-6), 433-442.

Sui, G., Fuqua, M. A., Ulven, C. A., and Zhong, W. H. (2009). A plant fiber reinforced polymer composite prepared by a twin-screw extruder. *Bioresource technology*, 100(3), 1246-1251.

Suits, L. D., and Hsuan, Y. G. (2003). Assessing the photo-degradation of geosynthetics by outdoor exposure and laboratory weatherometer. *Geotextiles and Geomembranes*, 21(2), 111-122.

Swain, S. N., Biswal, S. M., Nanda, P. K., and Nayak, P. L. (2004). Degradable soy-based plastics: opportunities and challenges. *Journal of Polymers and the Environment*, 12(1), 35-42.

Thakore, I. M., Iyer, S., Desai, A., Lele, A. and Devi, S. (1999). Morphology, thermomechanical properties, and biodegradability of low density polyethylene/starch blends. *Journal of applied polymer science*, 74(12), 2791-2802.

Viola, N. M., Battistelle, R. A. G., and De Domênico, I. (2013). Use of waste plastic and wood flour in the production of composite.

Viswanath, V. (2010). Degradation studies of polypropylene fibers and nonwovens with prodegradant additives.

Wahab, M. A. and Mottaleb, M. A. (2001). Mechanical properties and water absorption of rice starch-filled linear low density polyethylene. *Korea Polymer Journal*, 9(6), 297-302.

Wallström, S., and Karlsson, S. (2004). Biofilms on silicone rubber insulators; microbial composition and diagnostics of removal by use of ESEM/EDS: Composition of biofilms infecting silicone rubber insulators. *Polymer degradation and stability*, 85(2), 841-846.

Wallström, S., Strömberg, E., and Karlsson, S. (2005). Microbiological growth testing of polymeric materials: an evaluation of new methods. *Polymer testing*, 24(5), 557-563.

- Wang, K., Addiego, F., Bahlouli, N., Ahzi, S., Rémond, Y., Toniazzo, V., and Muller, R. (2012). Analysis of thermomechanical reprocessing effects on polypropylene/ethylene octene copolymer blends. *Polymer degradation and stability*, 97(8), 1475-1484.
- Waryat, R. M., Suryani, A., Yuliasih, I., and Johan, S. (2013). Using of a compatibilizer to improve morphological, physical and mechanical properties of degradable plastic from thermoplastic starch/LLDPE blends. *Int J Eng Technol*, 13, 115-122.
- Weber, C. J. (2000). Biobased packaging material for the food industry, status and perspectives. *Department of Dairy and Food Science*.
- Willett, J. L. (1994). Mechanical properties of LDPE/granular starch composites. *Journal of Applied Polymer Science*, 54(11), 1685-1695.
- Witt, U., Einig, T., Yamamoto, M., Kleeberg, I., Deckwer, W. D., and Müller, R. J. (2001). Biodegradation of aliphatic-aromatic copolymers: evaluation of the final biodegradability and ecotoxicological impact of degradation intermediates. *Chemosphere*, 44(2), 289-299.
- Wu, C. S. (2003). Physical properties and biodegradability of maleated-polycaprolactone/starch composite. *Polymer Degradation and Stability*, 80(1), 127-134.
- Yu, M., He, C., Huang, R., Liu, J., and Lu, D. (2016). Accelerated weathering of recycled polypropylene packaging bag composites reinforced with wheat straw fibers. *Forest Products Journal*, 66(7), 485-494.
- Zeena, P., Hamza, K.F., Anna, D., Thomas, K. and Saritha, G.B. (2009). Biodegradability studies on LDPE- starch blends using Amylase-producing vibrios. *International Journal of Polymeric Materials*, 58: 257-26.
- Zhang, S., Wang, W., Wang, H., Qi, W., Yue, L., and Ye, Q. (2014). Synthesis and characterisation of starch grafted superabsorbent via 10MeV electron-beam irradiation. *Carbohydrate polymers*, 101, 798-803.