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Corn Starch Packaging: An organic substitute to single-use plastic

Jithendra Nimmagadda, Director & CEO of Ecolastic Products, talks about why his products are a sustainable alternative to single-use plastics, upcoming launches, expansion plans and much more.

By Nisha Shukla

With the government implementing a stringent ban on single-use plastics and new alternatives taking centre stage, what steps are you taking to help the plastic industry recover the lost ground?

The ban is a move to eliminate the pollution created by single-use plastics, given most are not recyclable in a short usage span. Ecolastic Products are 100 per cent compostable and contain corn starch, hence eco-friendly. These are perfect substitutes for single-use plastics such as carry bags, garbage bags, etc., without compromising the properties or functionality.

With the advantage of being an end-to-end integrated company, we are already supplying ready compounds for blow film extrusion, thermoforming, and injection moulding to existing plastic product manufacturers. These granules supplied by Ecolastic can be used on the existing manufacturing equipment without any additional investment or overhaul by the plastic industry and hence can easily switch over from single-use plastic to eco-friendly compostable products.

Elaborate on your new range of products and your upcoming product line. What is its USP, and how does it stand out in the market?

Our most recent product range includes bio-hazard bags, courier bags, transparent garment bags, plant grow bags, agri-mulch films, candy



Jithendra Nimmagadda

WE ARE PLANNING TO INCREASE THE OVERALL CAPACITY BY NOT MERELY SCALING THE PRODUCTION CAPACITY OF OUR HYDERABAD UNIT BUT ARE ALSO UNDER DISCUSSION TO START NEW PRODUCTION FACILITIES AT VARIOUS LOCATIONS IN INDIA, WITH AN INTENT TO BE CLOSER TO THE MARKET AND IMPROVE THE SPEED OF OUR DELIVERIES

sticks, earbud sticks, balloon sticks, etc., in addition to the existing line of garbage bags, carry bags, d-cut bags, vegetable bags, grocery bags and film rolls.

Several products are in development by our in-house R&D team, including stretch films, cling wraps, shrink films and so on. The USP of our products is that we create products that replicate the strength,

functionality, and usage properties of single-use plastic products without any downside effects of plastic pollution. Most of our products contain corn starch that accelerates biodegradation and leads to faster compostability.

Our products are certified by CIPET to meet the IS/ISO 17088 standards, and accordingly, the CPCB has issued a certificate

allowing us to manufacture compostable products. We are the only company in India whose products are recommended by NITI Aayog as an eco-friendly alternative to single-use plastic.

You have partnered with DRDO Advanced Systems Laboratory (ASL) to launch bio-compostable products. Tell us in detail about this collaboration.

Our collaboration with DRDO took shape during our initial product development phase in 2020. It was during the period when the Covid-19 lockdown/restrictions were at their peak, bringing forth its own set of challenges. This collaboration helped us validate and test the in-house formulations and products, which eventually were under development. DRDO ASL has been of great support and encouragement during this developmental phase.

We kept exploring various natural raw materials considering their availability, properties, functionality, chemical



compatibility, and other factors. And after several trials, we found that corn starch fits our requirement to the maximum extent. We conducted extensive and in-depth trials on converting corn starch into Thermo Plastic Starch (TPS) pellets. As a known fact of most of the research, we faced our fair share of failures and sub-optimal results. However, after significant efforts, cost and extensive fine-tuning, we finally found the optimum solution for manufacturing TPS pellets. This proved a momentous step for us, as the capability of manufacturing TPS pellets in-house helped us augment the bio-based content and facilitated accelerating the biodegradability of our products. Of course, cost reduction and tight quality control are the obvious benefits of having this in-house capability.

What are the new formulations and packaging that your company will be launching soon?

We are in the process of developing stretch films, cling wraps, shrink films and so on. We are also working on barrier properties over the medium to long term.

We have heard that you are coming up with revolutionary transparent compostable bags for food packaging & garments. Kindly enlighten us about this product.

Innovation is constant at Ecolastic, and we have always made it a point to launch new products in line with market demand fulfilling our commitment to environmental sustainability. In fact, we have recently launched the food and garment packaging line, which is 100 per cent compostable like all our products. These products have undergone migration tests and have been found suitable for the purpose.

Our new range of garment bags is designed keeping the needs of garment manufacturers and exporters. We have achieved high transparency, ideal in highlighting the garments they contain. The bags have the look and feel of plastic but are 100 per cent compostable and eco-friendly. The strength and functionality of our products differentiate us from that our peers.

What is your existing production capacity? Are there any plans to increase it?

From a modest beginning in 2020





ECOLASTIC PRODUCTS ARE 100 PER CENT COMPOSTABLE AND CONTAIN CORN STARCH, HENCE ECO-FRIENDLY. THESE ARE PERFECT SUBSTITUTES FOR SINGLE-USE PLASTICS SUCH AS CARRY BAGS, GARBAGE BAGS, ETC., WITHOUT COMPROMISING THE PROPERTIES OR FUNCTIONALITY.

with a capacity of 500 tons/year, we have already ramped up our current production capacity to 10,000 tons per year at our Hyderabad facility. We are planning to increase the overall capacity by not merely scaling the production capacity of our Hyderabad unit but are also under discussion to start new production facilities at various locations in India, with an intent to be closer to the market and improve the speed of our deliveries.

You have also come up with Ecolastic water resistance films. How will it be beneficial for various industries?

We have water-resistant films which can withhold the liquid within the bags without any leakage. We also have products which are soluble in

water (warm/hot). The applications are myriad. For example, these water-soluble films can be used for laundry bags so that you can drop the laundry bag into the washing machine along with the clothes or as packaging applications for seafarers.

We have also started researching developing water vapour barrier properties and are hopeful of finding the solution in the medium to long term.

Tell us in detail about your expansion plans.

We have a detailed plan for our foray into international markets such as America, Europe, Australia, New Zealand, and the Middle East. We have already applied for the relevant certifications needed for the above locations, which we are sure to be cleared positively in the next 4-5 months. Most of these locations have already taken meaningful steps in reducing the usage of single-use plastic and promoting eco-friendly compostable products or recycled products. Having received such tremendous customer validation in India, we are sure that our products will also gain acceptance during our international foray. Our rigorous research and confidence in our various products have enabled us to apply for the highest clearance certifications for compostable products in these regions – Home Compostability along with Industrial compost certification. 🌱

