Specific to Biodegradable Plastics from Agro residues and wastes, Rigel has expertized to set up bioplastic granules manufacturing plant as well as product development from the granules. Apart from R&D on Next-Gen Bioplastics from Wastewaters, which is acknowledged and reputed, RIGEL also works on Starch based bioplastics granules and products on commercial scale.

Parameter	Specification	Unit	Method
Pellet Size	2.5-3.2	mm	Varnier Calliper
Density	~ 1.6	g/cm^3	ASTM D 792
Bulk Density	800-900	Kg/m^3	ASTM D 792
Moisture	< 4	%	ISO 1666

Property	Unit	Test Method	Value
Density	g/cm^3	ISO-1183	1.26-1.30
Melting Temperature	°C	DSC	110-120
Melt Flow Rate	(190°C at 2.16Kg)	g/10 min	ISO-1133 5-9
Tensile Strength	N/mm^2	ISO-527	18-22
Elongation at Break	%	ISO-527	≥ 200

MANUFACTURING BIO COMPOSTABLE CARRYING, PACKAGING, USEABLE ITEMS

Biodegradable carry bags, garbage bags for commodity carrying, shrink films & stretch films for packaging, aprons & head caps for health & hygiene sector, cutlery items for food sector can be suitable alternatives to conventional plastics for single use applications. The demand is present however supplies are limited in entire eastern India. There is urgent need for manufacturing of such products to cater to the demand of the local population.

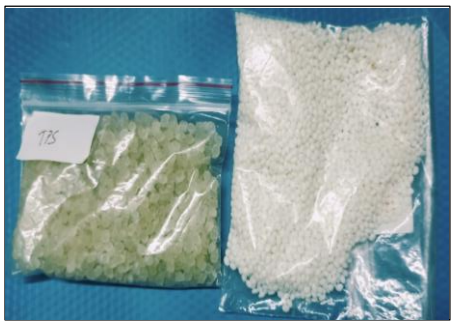
Bioplastic compounds to make end products like Carry Bags, Grocery Bags, Garment Bags, Garbage Bags, Shopping Bags, Laundry Bags, Agricultural Nursery bags, Agricultural Mulch Films etc.

MANUFACTURING BIO COMPOSTABLE GRANULES

Bioplastics can technically substitute synthetic plastics, are compostable and Biodegradable (depending on formulations) at End of Life in environments such as soil and water bodies. Besides they are environment friendly as they are produced from renewable resources which can reduce GHG emissions by recycling organic carbon in a closed loop sequestration process.

This project involves Granulation production specialty twin screw extruder

Production of compounded pellets from:



- **(a) Corn Starch Thermoplastic & specialty blends**
- **(b) Biopolymer blends with TPS**
- **(c) Specialty biopolymers for master batch**
- **(d) Compostable organic polymers**

Time needed between Inception and Test production: 6-8 Months*

*Based on time to arrange finance, land arrangement and infrastructure set up if not in place and finally obtaining IS 17088 certification to sell the product.

Type of Plant: Semi/ Full Automatic