Biodegradable and Compostable Disposable Cups and Plates from Sugarcane Bagasse and Wheat Straw

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<tbody>
<tr>
<td>Capacity:</td>
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<td>Plant and machinery cost:</td>
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<td>Working Capital:</td>
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<td>Rate of return(ROR):</td>
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<td>Break Even Point (BEP):</td>
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<tr>
<td>TCI:</td>
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<tr>
<td>Cost of Project:</td>
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Biodegradable and Compostable Disposable Cups and Plates from Sugarcane Bagasse and Wheat Straw. Production of single-use Disposable Foodservice Products.

Bagasse is remoulded to a kind of paper that is used to make plates, cups and glasses. Recyclability, lightweight, and other physical attributes of disposable cups will continue to make them the foremost choice of packaging food products. Disposable cups are designed to hold both, hot and cold, substances, which further propels their applicability in global food & beverage industry. However, a majority of disposable cups are made from plastic materials to reduce chances of food contamination. This raises concerns regarding impact of such plastic cups on the environment, whether in terms of rising production or from dumping waste plastic disposable cups.

The uses of biodegradable plates and Cups are many. They are:
- Cheap
- Easy to use
- Easy to dispose
- Hygienic
- Easily available

Disposable cups made from bioplastics or other such materials is predicted to garner surplus demand in the years to come. Such favourable consumer preferences, coupled with rising consumption of fast in the world, will also continue consolidating the growth of global disposable cups market. Global market for disposable cups projects that by the end of 2026, more than US$ 21.2 Bn worth of disposable cups will be sold globally.

Growth will be driven by the increased options and convenience of meals prepared or consumed away from home. Demand will also be supported by a shift toward the use of higher value products featuring durable plastic or compostable materials.

More than ever, consumers are demanding flexibility in their meal options. Generally, they are looking for speed and convenience. The availability of online ordering and delivery services allows the enjoyment of eating out while still tending to their busy lives. As this trend continues to rise, the establishments that serve them must be prepared to package a meal for takeout or delivery while ensuring the best eating experience for their guests. This includes containers, wraps and bags, among others. The single-use items utilized must prevent spills, provide convenience, and best represent the image that the foodservice establishment is trying to achieve.

The global sales of disposable cups is expected to surge steadily at 5.1% CAGR, procuring revenues from sales of over 850 Bn units towards the end of 2026.

Today, the market is growing a conscience. With plastic bans in various cities and an increase in awareness of the dangers of plastic, people are more accepting of biodegradable materials.

Sugarcane is a very fast renewable resource for which no trees have to be cut down. As a by-product of the sugar production, bagasse does not require additional cultivation areas and has no impact on the area of forests. On the contrary: It is actually a sustainable and eco-friendly alternative to conventional paper production because the bagasse paper production wastes much less energy than the wood paper production.

Characteristics of bagasse products:
- Very stable, sturdy and not very flexible
- Good thermal property: suitable for temperatures from -25°C to 220°C;
- Water repellent and grease-proof: also suitable for hot and very oily/greasy dishes
- Completely biodegradable & compostable

Manufacturing Process
Bagasse is the newly developed material for the production of tableware. Compared with other raw material, bagasse Cups and Plates has better appearance and longer life span, compared with polyester, bagasse is more environmental friendly, which can be recycled or absorbed easily. Bagasse pulp, which can be obtained from paper making plants, is used as raw material, after pulping, molding & drying section, the tableware will go through sterilization and edge trimming section before packaging.

1) **Pulping:** Soaping the pulp paper board and put into hydraulic pulper. After pulping, pulp will go into mixture tank and add water and oil additive, then goes to pulp supply tub for forming machine, vacuum dewatering and forming

2) **Forming:** Forming is the key process in production line. The process is quantitative pulp supply, back flushing power supply, vacuum dewatering and forming. With advanced technology to eliminate holes, uneven thickness during production, so as to reduce defective goods. The semi-finished product will be moved into drying mould for solidity.

3) **Shaping and drying:** At this process, steam is used for heat drying. Compare to electrical heating, 70% energy will be saved, meeting hygiene requirements of food packaging, enhance resource utilization. Qualified production rate is up to 99%.

4) **Edge cutting and sterilization:** The product taken out from the shaper will be moved into edge cutting machine, where the extra edge will be trimmed. UV sterilization is applied to make sure production meeting with hygiene requirement.

5) **Packaging:** Final production is packed and stored.

**Tags**

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