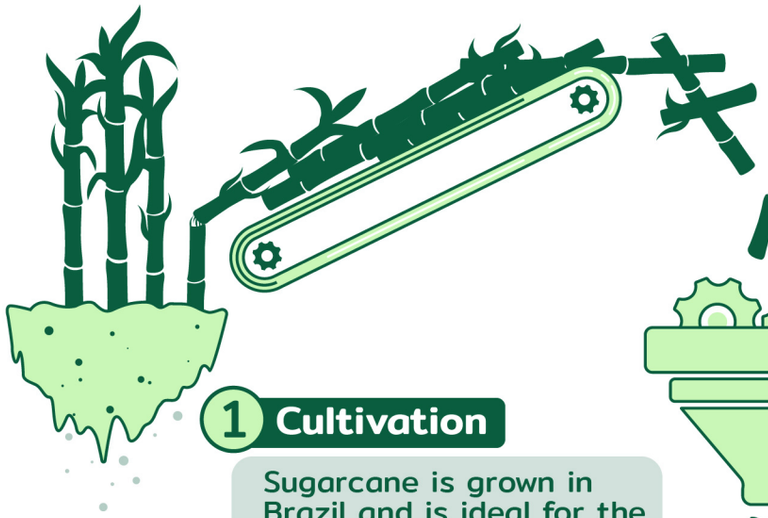
How Plant-Based Plastic is Made



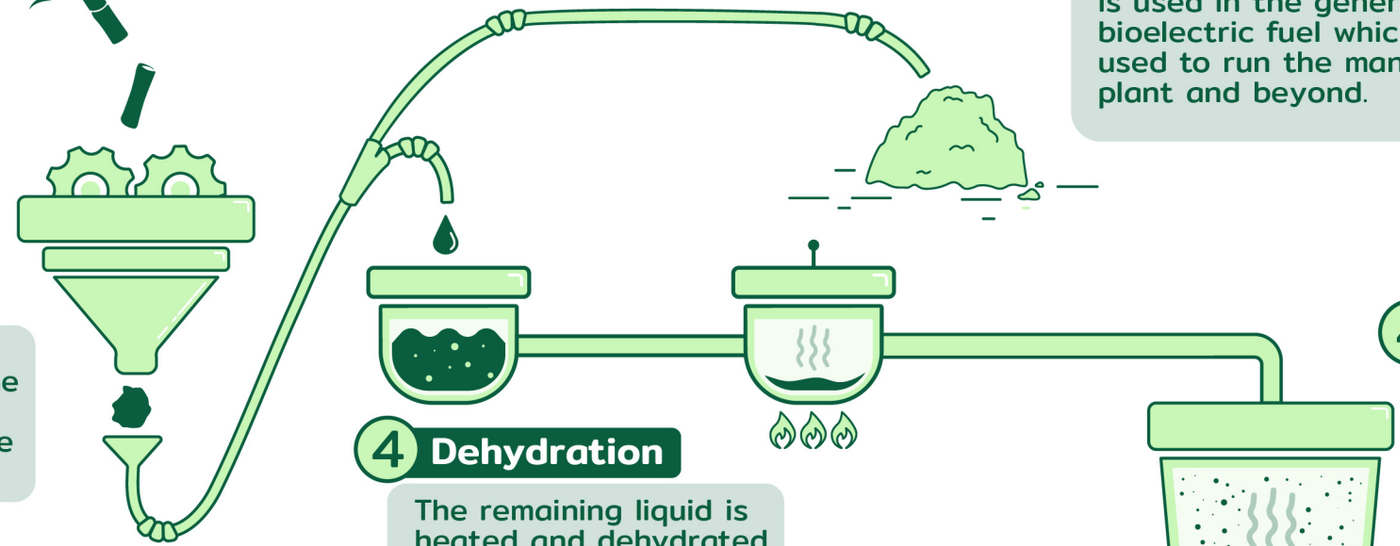
1 Cultivation

Sugarcane is grown in Brazil and is ideal for the production of bioplastic because of its renewable and sustainable nature.

2 Crushing, Fermentation & Distillation

The sugarcane is ground down and separated into sugar and cellulose. Fermentation converts the sugar into ethanol.

The waste from this process is known as "bagasse". Fortunately, it does not go to waste. Bagasse is used in the generation of bioelectric fuel which can be used to run the manufacturing plant and beyond.



4 Dehydration

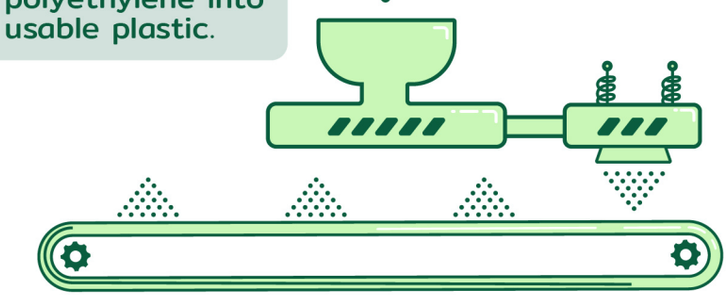
The remaining liquid is heated and dehydrated to convert the ethanol to ethylene.

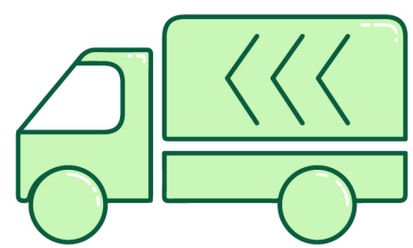
4 Polymerization

The ethylene goes through a chemical reaction called polymerization, which causes the ethylene molecules to form long chains, chemically identical to PE plastic.

5 Extraction

This stage of the process forms the polyethylene into usable plastic.



6 Transporation & Transformation

The finished product is transported to the manufacturer to be made into a product. Samsill transforms this plastic into ring binders in Fort Worth, Texas.