



**INVENTORS**

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# ENVI BROOM

## GREEN AND STATIC DISSIPATIVE BROOM

### PRODUCT DESCRIPTION

Plastic are commonly produced from polyolefin that can last for hundred years after disposal. Renewable resources such as plants, animals and microbes through biochemical reaction offer good remedy to the problem of plastic waste. Agricultural waste such as coconut husk fibre often being used as fertilizer or being thrown away by the agriculture industry. By combining renewable and environmental friendly coconut husk fibre with LLDPE, the better material with great mechanical properties and highly degradable characteristic could be developed.

### NOVELTIES

Can be processed by conventional plastic equipments such as brabender, twin screw extruder

Biodegradable

React as anti-pest

### PROBLEMS STATEMENT

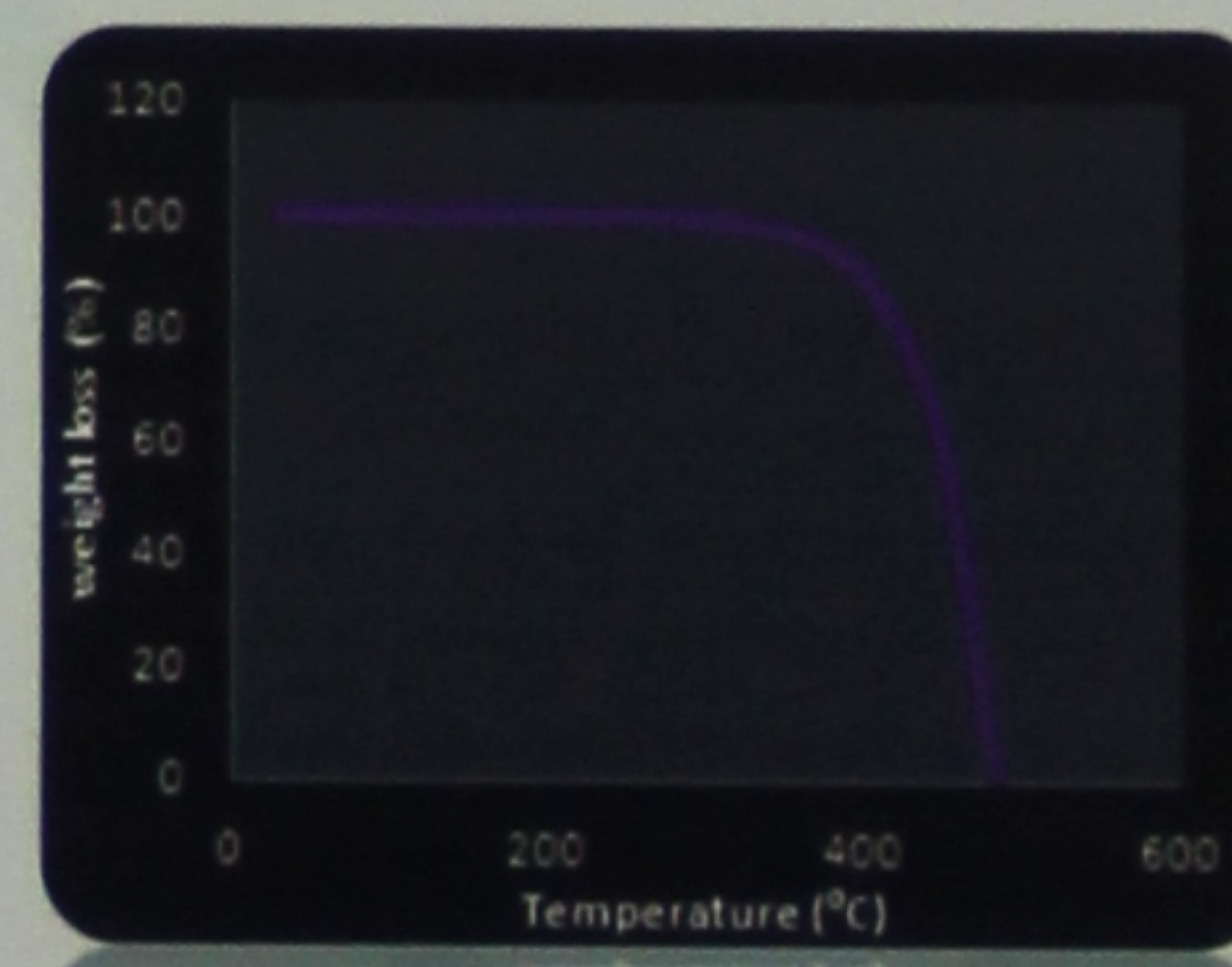
- ❖ The discarded plastic can harm human life as well as marine life.
- ❖ Biodegradable plastic is cheaper but the disposal of plastic waste problem across the country.
- ❖ Disposal of metal dross from aluminium industry produces nearly five million tonnes of furnaces waste but a valuable by product of the smelter.

### PRODUCT ADVANTAGES

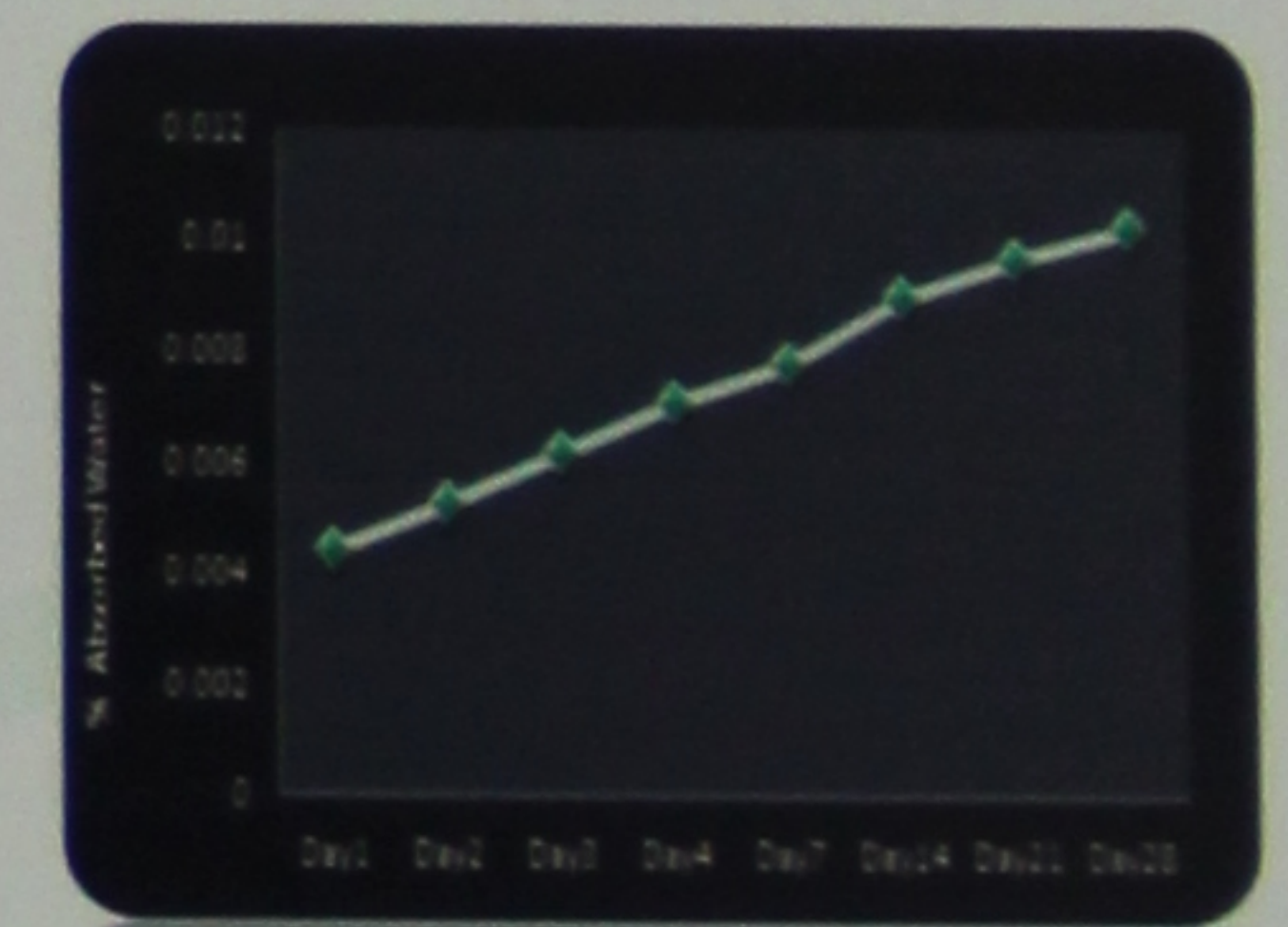
- ✓ Adding coconut husk fibre:
  - Good durability characteristic
  - Biodegradable
- ✓ Adding metal dross (Aluminum waste):
  - Ability of the materials to dissipate charge generated on their own surface by contact or sliding action
- ✓ Adding lemon grass:
  - Can be insect repellent
  - Odourless

### PRODUCT PERFORMANCES

PROPERTIES	VALUE
Tensile strength	9.10 MPa
Elongation at break	101.31%
MFI	8-10ml/10min
Density	1.15g/cm <sup>2</sup>
Service period	1 – 2 years
Charge decay	<ul style="list-style-type: none"> <li>• At t(5000 á 50 V) (sec) = 2.06</li> <li>• At t(5000 á 50 V) (sec) = 1.53</li> </ul>

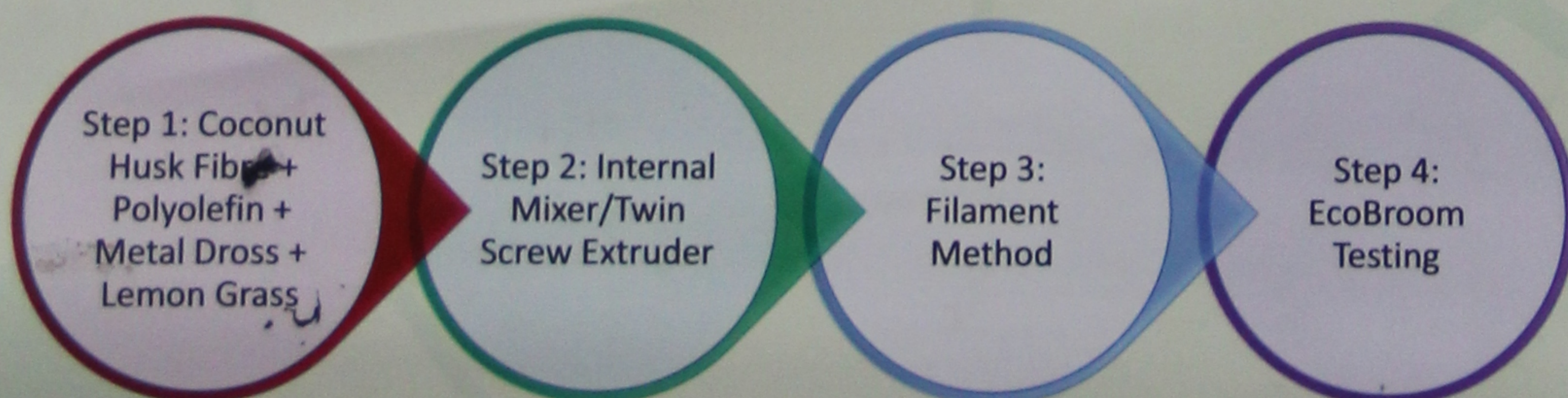


TGA Result for Polyolefin/ coconut fiber



Water Absorption test for 28days

### PROCESS FLOW



### POTENTIAL APPLICATION



### INDUSTRIAL COLLABORATION

