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# Eco-Friendly PLA-Kenaf Fibre Biocomposite for Food Packaging



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## RESULTS

	Tensile Strength (MPa)	Tensile Modulus (GPa)	T <sub>g</sub> (°C)	T <sub>m</sub> (°C)	% X	Degradation time (Years)
PLA+ 20% Kenaf	73.6-76.4	5.1-5.5	63	149	Amorphous	0.5-1
PP	25-33	1.2-1.5	-10	173		100-500
PS	46-60	3.0-3.6	95	240		
PET	55-75	2.8-3.1	75	260		
LDPE	8-12	0.2-0.4	-110	130		

## OBJECTIVE

To produce PLA-Kenaf Biocomposite for Food Packaging.

## NOVELTY

- ✓ Fully Biodegradable
- ✓ Renewable Sources
- ✓ Contains No Toxic
- ✓ Environment Friendly
- ✓ Cost Effective

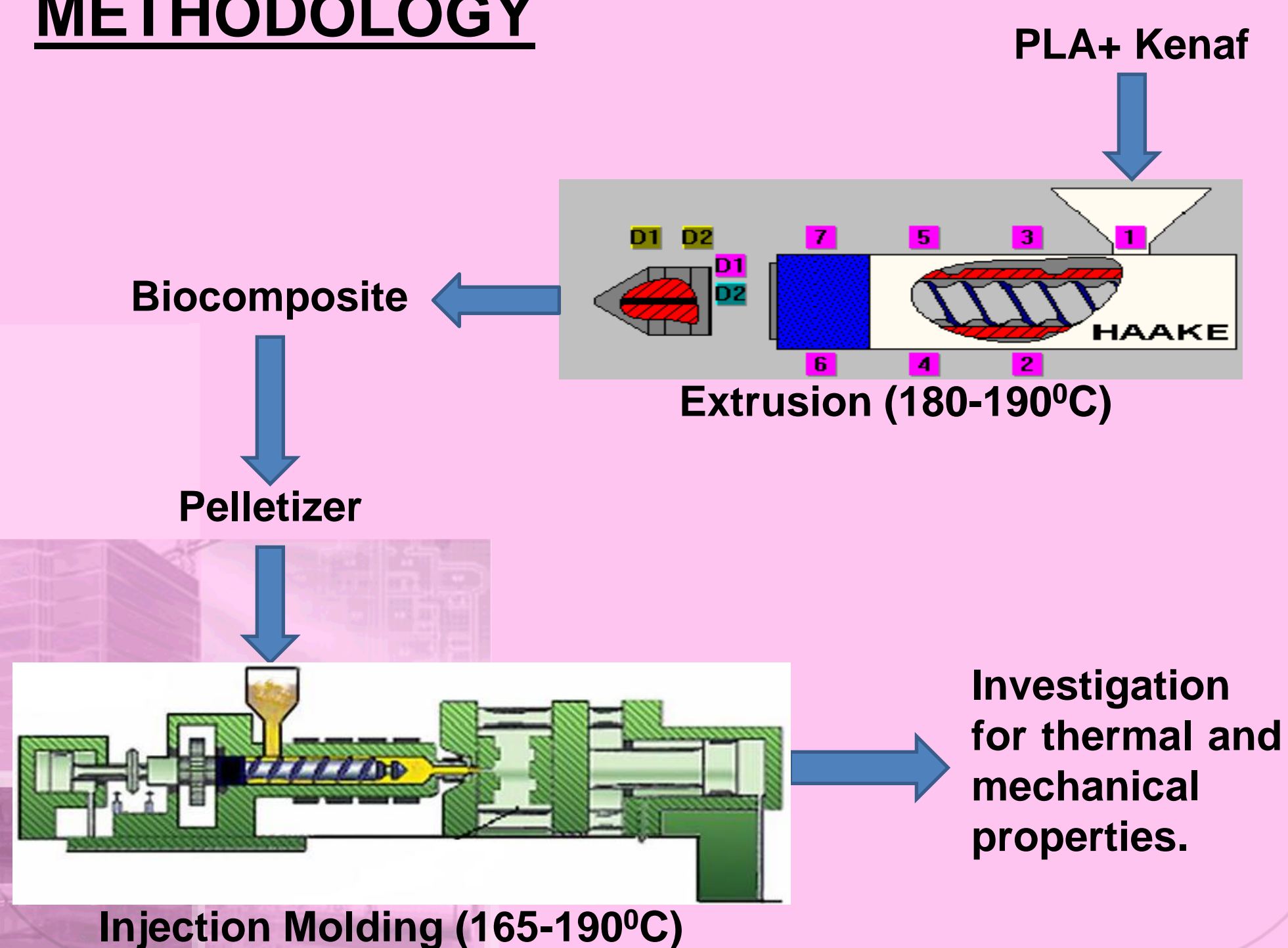
## INTRODUCTION

From a statistics accounted in 1999, 48% of plastic bottle that used is made from PET. Among them a huge percentage are end up as garbage and caused the landfills. This toxic waste pollutes our subsurface water label through leaching. PLA is a strong candidate to substitute conventional petroleum based polymer. Kenaf fiber was added to reduce the cost as well as to increase properties. The mechanical and thermal properties shows that PLA-Kenaf biocomposite shows better properties than conventional food packaging polymer.

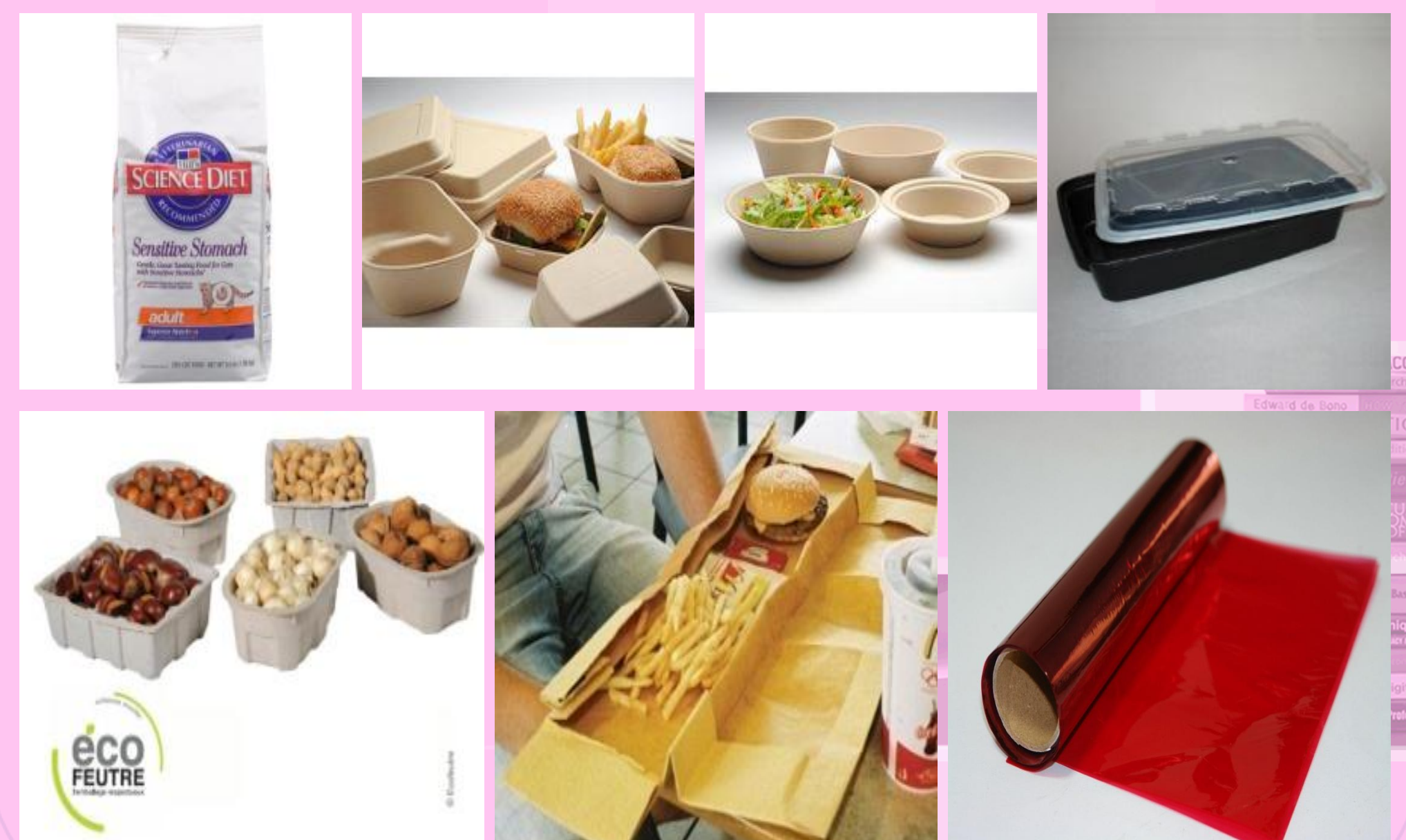
## CONCLUSION

- PLA +20% Kenaf shows better mechanical properties than conventional polymers.
- Glass transition temperature is also in allowable limit.
- Like convention polymer PLA + 20% Kenaf is amorphous.
- PLA + 20% Kenaf shows much better biodegradability than conventional polymer.

## METHODOLOGY



## APPLICATION



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