

Dr Imogen Napper's study

Deterioration of compostable versus conventional carrier bags

Dr Imogen Napper studies ocean plastics at The University of Plymouth. Imogen has compared lots of different types of plastic to see in what conditions they break down best. Her findings will help us reduce the time plastics persist in the environment.

Imogen has tested compostable and conventional plastic carrier bags. These materials were exposed to open air, buried in soil, and submerged in seawater. One was kept in laboratory conditions as a control.

Imogen removed the bags after 3 years. She cut them into equal sized squares. Then Imogen hung a weight from the plastic and measured how much they stretched. The more the plastic stretched the more they had degraded.

1. What was Imogen's independent variable (what did she change)?

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2. What was Imogen's dependent variable (what did she measure)?

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3. What was Imogen's control variable (what did she keep the same)?

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Environment	How much the bags stretched with 60g weight	
	Compostable bag	Conventional bag
Open air	120mm	100mm
Buried in soil	240mm	60mm
Submerged in sea water	120mm	100mm
Lab conditions	100mm	90mm

4. Which bag showed the most degradation?

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5. Which environment degraded the bags the most for compostable and conventional bags?

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6. How could you improve this investigation?

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