Plastic Made from Fish

(November 2019)

Lucy Hughes, a 23-year-old British woman, has invented something pretty amazing: a material that could one day replace single-use plastic. Lucy's new product, called MarinaTex, is made from fishing waste and algae. Lucy hopes it'll soon be used in products such as plastic bags and containers.

Lucy invented MarinaTex for her final-year project while she was a student at the University of Sussex. However, Lucy kept working on the project long after she left school. Her diligence paid off—on November 13, the James Dyson Foundation announced Lucy was the international winner of the 2019 James Dyson Award for design.

So what exactly is MarinaTex? Well, for starters, it's edible. This means you can eat it without risk of getting sick. Not that you'd want to eat it—but you could. In spite of this trait, MarinaTex is extremely tough and can withstand a lot of wear and tear. Unlike plastic, MarinaTex will degrade in about four to six weeks. When it does, it won't send any pollutants into the water or soil.

Lucy was motivated to create MarinaTex because she was concerned about the amount of plastic in the ocean. Lucy referenced one report that stated there will be more plastic

than fish in the ocean by 2050. Currently, there are roughly 100 million tons of plastic waste floating in our waters.

Another big concern for Lucy, as well as for others, was the waste produced by the fishing industry. It's estimated that 50 million tons of waste is generated worldwide each year. That's an awful lot, so Lucy wanted to figure out a way to use the waste, thereby adding value to it.

It was a dirty job but someone had to do it—and that someone was Lucy. She examined a lot of fish parts left over after processing. That's when a lightbulb went off. Why couldn't she create useful materials that wouldn't harm the environment from stuff like fish guts? Lucy didn't need manmade polymers; she could get organic ones from leftover fish. In case you're wondering, polymers are natural and synthetic substances with very large molecules. When combining agar, a substance from red algae; chitosan, which comes from crabs and other sea creatures; and proteins, Lucy was able to make a durable and environmentally friendly material.

Inventor James Dyson took notice of Lucy's ingenious innovation, saying MarinaTex is stronger, safer, and much more sustainable than plastic. As a result, Lucy will receive $41,000 in prize money as the first-place winner of the award. She plans to use the cash to further develop her product and find ways to mass-produce it as well. One could say Lucy is making the most out of a fishy situation.

Teacher Resources – Vocabulary

Potential Words for Further Study: These words not only help with comprehension of the passage, they also appear more frequently in a wide spectrum of reading, especially in academic text. Therefore, further study of the meaning of these words may be beneficial. The words on this list can be incorporated into subsequent lessons.

Wilson Reading System Vocabulary Level: AB

foundation (n) an organization which provides money for a special purpose such as research or charity

process (v) to prepare by or subject to a special process or method

Words for Quick Discussion: Consider discussing these words as they are encountered to help students comprehend the passage. A quick discussion in student-friendly language while reading the text is best.

Wilson Reading System Vocabulary Level: B

diligent (adj) persevering and careful in work; industrious

edible (adj) safe to eat and not poisonous

ingenious (adj) very clever and involving new ideas, methods, or equipment

motivate (v) to provide with, or affect as, a motive or motives; incite or impel

sustainable (adj) designating, of, or characterized by a practice that sustains a given condition, as economic growth or a human population, without destroying or depleting natural resources, polluting the environment, etc.

Definition Source: *Collins English Dictionary. Retrieved from* https://www.collinsdictionary.com/us/dictionary/english

Text Easability:

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2. Once you have created an account and sign in, you will be taken to a page with an empty, white text box. Copy and paste the text from this passage into the empty, white text box. Make sure you are only copying and pasting the body of the passage. Do not include the title, date, or any of the resources present in the passage.
3. When you have pasted the passage into the text box, click on the red button beneath the text box that says "Analyze." There will be a short delay and after a few seconds, you will see a bar graph appear to the right of the screen.
4. The bar graph will give you the percentages for several text characteristics including: narrativity, syntactic simplicity, word concreteness, referential cohesion, and deep cohesion.
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