

WIU CENTENNIAL HONORS COLLEGE
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Abstract

Poster

Major Biology

Faculty Mentor: Brian Peer

Development of an Environmentally Friendly Detergent Container

Jason Olson

Megan Ward

Pod detergent containers account for a significant portion of plastic waste. Cost-effective biodegradable material could be a useful replacement. We designed and compared two environmentally friendly pod detergent containers. In the first design, cornstarch, water, vegetable glycerin, and vinegar were combined and heated to create a gel-like material that resembled plastic when dried. The second design used bamboo sticks to form structurally strong paneled walls. Once dry, the biodegradable plastic had the strength to hold the detergent pods and maintained its shape. However, it was difficult to mold into the desired shape of a container. Bamboo was the better design because of its strength, and it is also a renewable resource. Neither design was as effective as existing plastic containers, but both containers show potential with further development.