The Ultimate Plant-Powered Bike Lube

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The project aims to explore the use of plant corrosion inhibitors compared to toxic bike chain lubricants on carbon steel bike chains. Current bike maintenance companies use petroleum and toxic chemicals which are both toxic to the environment and for the user as well. A series of tests were conducted to identify the most efficient plant-corrosion inhibitor solutions for carbon steel. The most efficient solution was found to be MCT Oil, Oreganum Vulgare, Wormwood Oil, Pine Needle, and Tea Tree Oil, outperforming Rock N Roll Gold, the leading bike lubricant brand. The project suggests that using plant-based lubricants for bike chains could reduce environmental impact and potentially have applications in various industries, including military, automotive, aerospace, manufacturing technology, construction, and oil recovery.

Awards Won:
Arizona State University: Arizona State University ISEF Scholarship (valued at up to $58,000 each)