Using Fall Leaves To Make Biodegradable Films

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This project continues on the foundational research of using spent coffee grounds to make biodegradable films by harnessing the bountiful and renewable potential of fall leaves, this project aims to revolutionize biodegradable film production. Departing from conventional materials like spent coffee grounds, fall leaves offer a naturally abundant source of cellulose, presenting an environmentally conscious alternative to traditional plastics. By fine-tuning calcium chloride levels, we strive to minimize chemical usage without compromising the integrity of the resulting biodegradable films. Outcomes of tests ran include films boasting superior mechanical strength, water barrier properties, and antioxidant qualities, with the added benefit of soil degradation at 24% soil moisture within a month. This innovative approach taps into the inherent value of fall leaves, providing a compelling solution to the environmental challenges posed by non-biodegradable plastics.

Awards Won: