

Chapters 4 & 5

From Mushrooms to Packaging (and Surfboards)



Members of NYSAR³ Chapters 4 and 5 are pictured at Ecovative headquarters. The surfboard is one of the innovative products the company is experimenting with - produced from agricultural residue and mycelium culture (mushrooms).

Members of NYSAR³ Chapters 4 and 5 tour recently spent an interesting afternoon which included a movie, lunch and tour of an innovative “green industry” using mushrooms and fungus to create packaging.

The group met at the SUNY Albany campus, where they viewed a screening of the movie “Bag It - Is Your Life Too Plastic?” Following lunch and a meeting, the members traveled to the Green Island headquarters of Ecovative Design.

According to their website “Ecovative Design, LLC produces an innovative, bio-based, zero-waste packing material. Two entrepreneurs (Gavin McIntyre and Eben Bayer) developed a strong, low-cost biomaterial that replaces foam packaging, such as Styrofoam, urethane and plastic thermoforms. The process uses fungi that “grow” on custom shaped forms made from inedible crop waste (i.e., buckwheat husks). Every gram of raw material becomes part of the final product which means zero waste.



Gavin McIntyre shows the group one of the flexible molds used for specialized packaging forms.

Furthermore, the packaging material, known as “EcoCradle,” can be easily composted after its intended use. By comparison, synthetic materials such as plastics and foams, consume approximately 10 percent of the petroleum used in the United States annually.”

During the tour, Gavin McIntyre led the group through the research facilities, explaining how he and Eben Bayer met at RIT and were encouraged by their professor to take their research to another level.

“We are really a materials research company, more than a manufacturer,” McIntyre said. He noted that since this process uses agricultural residue as the base, it is more financially feasible to locate manufacturing facility near the domestic manufacturing sites which will be using the packaging. In the northeast, they use corn stalks and kernels as the base, filling in with wood chips when needed. Other areas would have access to different base materials.

Ecovative has also developed a manufacturing system to grow large blocks of mycelium / wood composites. These can be cut, sanded, and used as ultra low density particle board panels or shaped into large volumes. Perfect for a wide range of applications from theater sets to wetland rafts to acoustic barriers.

Also of note was the “bovine free leather” looking and feeling remarkably like a piece of black leather, lacing only that leather smell.



Lesley Cutting of NYSDEC is pictured holding one of the solid core pieces used in doors or construction.