

Science Watch

New developments from the LSU AgCenter

New processes can boost Louisiana's sugar economy

Sugar mills in Louisiana may be able to produce high-quality, value-added products, thanks to innovative techniques developed by Dr. Michael Saska, a researcher at the LSU AgCenter's Audubon Sugar Institute.

Whitening Raw Sugar

While Louisiana sugar mills currently produce raw sugar that's shipped to refineries to make white sugar, this new technology would allow the state's mills to efficiently produce a more valuable product.

Because its purity is between raw sugar and highly refined sugar, the new middle-grade product is less expensive to produce than highly refined sugar, making it an ingredient attractive to many industrial users, such as soft drink bottlers, that don't require highly refined sugar.

The LSU AgCenter recently received a patent for the process, which uses fine membranes to filter solid impurities and color bodies out of dissolved sugars to produce a sugar grade that's purer than raw sugar but not as highly refined as common white sugar typically sold in grocery stores. The new process produces crystalized sugar almost as white as refined sugar now in use while removing the need for chemicals and simplifying the process to produce a product with acceptable quality for many applications.

High-Value Sugar Extracts

Saska has also developed a process to extract high-value sugars from byproducts of vegetative materials. Often used in food products, medicines, pharmaceuticals and other specialty applications, the sugar alcohols mannitol, arabitol and xylitol are products of three sugars found in many vegetative sources, including trees.

Current processes use crystallization techniques to remove the sugar xylose from hardwoods. But recovering xylose from softwoods is difficult, especially if the three sugars are in a more-uniform concentration, which frequently occurs.

The LSU AgCenter has applied for a patent on the process, which strips out the sugars one at a time. Improving the ease of extracting sugars from softwood can be a valuable contribution to Louisiana's timber industry.



Dr. Michael Saska shows how a new process for processing raw sugar can improve the color of the final product without costly refining.



for information

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