

Low-calorie sweetener from corn fibres

Researchers at the Agricultural Research Service (ARS), the United States, have reported that waste corn fibres obtained after ethanol extraction can be used to produce a low-calorie sweetener for niche markets. Xylitol, a white crystalline powder, gives some speciality brand sugarless gums their “misty-cool taste”.

According to ARS researchers who developed the process for making xylitol, certain strains of the yeast *Pichia guilliermondii* can be used to efficiently synthesize the product. But a major hindrance to this process is the presence of glucose, another by-product of ethanol production. Yeast is more attracted to glucose, as an energy source, which prevents the xylose-to-xylitol transformation. To overcome this problem, researchers employed two batches of the yeast. The first dose of yeast clears the glucose portion, leaving the transformation of xylose into xylitol for the next batch.

Xylitol has about one-third fewer calories than sugar, but about the same sweetening effect. At present, xylitol is obtained by treating acid-treated fibres of birch wood. It has a US\$28 million market in foods for special dietary uses, mouthwashes, tooth-pastes and chewing gums. The new process could make xylitol production more cheaper as it requires less energy than chemical conversion. *Contact: Mr. Timothy Leathers, ARS, National Centre for Agricultural Utilization Research, Peoria, IL, the United States. Tel: +1 (309) 6816 377; Fax: +1 (309) 6816 686.*
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